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AN EVALUATION OF HIGH ALTITUDE ENGINE MODIFICATION DEVICES (ECONO-KIT)

AUTOMOTIVE TESTING LABORATORIES, INCORPORATED

PREPARED FOR
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of
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(Econo-Kit)

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In Colorado and other high altitude areas, the motor vehicle plays a disproportionate and adverse role in atmospheric pollution due to fuel enrichment and other inherent factors associated with engine operation in these areas. As a consequence, a sizeable program is required, not only for emission reduction in elevated areas, but for fuel economy improvement as well.

The report deals with devices which include certain parametric adjustments to help compensate for the high altitude effect on carburetion and combustion in the conventional automobile engine.

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1. INTRODUCTION

The Federal program for controlling emissions from motor vehicles has been generally effective as shown by results from the nationwide Emission Factors and other study programs. In Colorado and other high altitude areas, however, the motor vehicle continues to play a disproportionate and adverse role in atmospheric pollution due to fuel enrichment and other inherent factors associated with engine operation in these areas. As a consequence, a sizeable potential exists not only for emission reduction in elevated areas, but for fuel economy improvement as well.

In this respect, a study* conducted by the Colorado Department of Health had earlier indicated exhaust gas recirculation/air bleed (EGR/AB) devices with given calibrations and engine settings were effective in reducing hydrocarbon (HC), carbon monoxide (CO) and oxides of nitrogen (NO_x) emissions at Denver's altitude without adverse effects on fuel economy. Air bleed devices alone were found to produce similar results although installation was generally accompanied by an increase in NO_x emissions. Other engine settings and EGR/AB and air bleed devices were found to lower HC and CO emissions, control or cause increases in NO_x and improve fuel economy.

In keeping with its objective of supporting states in their efforts to implement air quality programs, Region VIII of the Environmental Protection Agency (EPA), which has as its responsibility the geographically elevated Rocky Mountain area, elected to evaluate specific EGR/AB devices more extensively based on limited test data presented to it by the manufacturer. Region VIII subsequently designed an experimental program to evaluate the devices and contracted with Automotive Testing Laboratories, Inc. to perform the evaluation.

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* Volume II of Colorado's High Altitude Vehiclular Emission Control Program.

The devices, marketed under the brand name of Econo-Kit by Clean Air Research Company of San Diego, California, include certain parametric adjustments to help compensate for the high altitude effect on carburetion and combustion in the conventional automobile engine. These adjustments, which include certain ignition timing and carburetor idle circuit settings, are considered an integral part of the installation. The kit itself contains an oversized PCV valve (the air bleed component) for application to NO_x controlled vehicles (1973 and newer), an oversized PCV valve and a modulated EGR valve for application to 1972 and older vehicles, and associated hose, tubing lengths and mounting hardware. According to the manufacturer, the combination of parametric adjustments and the "hardware" portion of the kits provide a better balance between fuel consumption, exhaust emissions and engine performance at high altitude while allowing the engine to operate satisfactorily at the design fuel octane level.

2. VEHICLE TEST PROGRAM

2.1 GENERAL DESIGN

The program involved a series of tests on sixty vehicles from model-years 1968 through 1975 with emphasis on establishing possible emission control and fuel economy benefits. The specific purposes in these regards were to evaluate:

> The effects of an EGR/AB system on pre-NO_x controlled 1968-1972 model-year vehicles.
>
> The effects of an air bleed modification on NO_x controlled 1973-1974 model-year vehicles.
>
> The effects of an air bleed modification on 1975 model-year vehicles.

The program was designed to be performed in two phases to accomodate any necessary changes in the vehicle sample, engine adjustment and/or device treatment, or in the testing sequence. Between the two phases, modifications were made in each of these areas to permit the devices to be evaluated more definitively. Provisions to enable the Econo-Kit representative to optimize both engine and hardware settings were also included during each phase by allocating forty experimental emission tests for this purpose.

Due to economic and other considerations, the vehicle sample was not representative of the Denver area vehicle population. The sample was nearly equally distributed by model-year groupings and was heavily comprised of government-owned (GSA) vehicles and EPA employee-owned vehicles. The balance of vehicles were privately owned. The GSA vehicles included both passenger cars and light-duty trucks.

Test configurations varied in sequence depending on model-year, device configuration and other factors. The specific sequence to which each vehicle and vehicle set was subjected is indicated in the Appendices. With the exceptions noted, however, the sample generally received:

> A baseline test to establish emission and fuel economy levels of the vehicle in the as-received or pre-maintenance state.
>
> A test after engine tune-up to establish the benefits of tune-up and to establish device benefits in connection with vehicles in the tuned state.
>
> A test incorporating parametric carburetor and ignition timing adjustments specified by the Econo-Kit representative, less the devices.
>
> A test incorporating both parametric adjustments and device hardware, both of which constitute the full Econo-Kit.

Not all of the vehicles received a tune-up and, consequently, were not tested in this configuration. Also, not all vehicles were tested in the parametric adjustment less hardware configuration. The tune-ups which were performed were limited in that relatively few new parts were installed and the adjustments were essentially limited to ignition timing and carburetor idle mixture and engine rpm adjustments. Certain new ignition parts were installed on the 1968-1974 model-year vehicles, however, on a routine basis.

The test procedure employed at each test point was the current Federal mass emission test. This test is officially performed on a vehicle after it has remained unstarted under controlled temperature conditions a minimum of twelve hours. In certain cases, however, the hot start version of this procedure was the only test performed. The Federal test yields both cold and hot start mass emission values for hydrocarbons (HC), carbon monoxide (CO), carbon dioxide (CO_2) and oxides of nitrogen (NO_x). Fuel economy was calculated by the carbon balance equation using mass HC, CO and CO_2 emission values.

Econo-Kit installations and associated parametric engine adjustments were performed by laboratory personnel under the training and supervision provided by the Econo-Kit representative. Pre-packaged versions of the kits were supplied.

Data processing was to include determinations of means and standard deviations for the vehicle by manufacturer, model year, vehicle type (truck or automobile), vehicle owner (GSA or private owner), control options (air pump & catalytic converter), engine displacement class, vehicle inertia weight class and the total sample.

2.2 SAMPLE SIZE

A sample of sixty vehicles, divided into three groups by model-year, was tested. The 1968-1972 model-year vehicles were combined in one group since NOx emission control (EGR) devices were not installed by the manufacturer on vehicles produced during those model years. In general, these vehicles had the type of positive crankcase ventilation control conducive to device installation. The 1973-1975 vehicles had the same type of PCV control and manufacturer-installed NO_x controls. Due to the presence of the catalytic converter and a consequent lower emission level, 1975 model-year vehicles were put into a separate group. A more specific listing of the overall sample is presented in Table 1.

2.3 VEHICLE ACCEPTANCE AND INITIAL HANDLING

Each vehicle was inspected by laboratory personnel prior to acceptance for testing. No vehicle was accepted which had a defective muffler or exhaust pipe. Leaks in these systems tend to reduce the observed emission levels. In addition, no vehicle was accepted which had bad valves, rings or other major engine problems.

Model Year	
1968-1972	18 vehicles
1973-1974	20 vehicles
1975	22 vehicles
Engine Size	
Less than 151	8 vehicles
151 - 250	12 vehicles
251 - 350	24 vehicles
More than 350	16 vehicles
Manufacturer	
AMC	9 vehicles
Chrysler	18 vehicles
Ford	7 vehicles
GM	21 vehicles
Imports	5 vehicles

Table 1. Vehicle sample by model year, engine size and sample.

Upon acceptance, contracts were signed between the laboratory and the vehicle owner delineating the respective responsibilities relative to the vehicles. Before agreements were completed, a vehicle inspection with respect to body damage, missing hubcaps, and other similar defects was made and the owner was alerted to any defects found. A similar inspection was made upon return of the vehicle to the owner after testing to demonstrate that the vehicle was being returned in its original condition.

In preparation for testing, the snow tires or overly worn tires, as applicable, were changed to the non-drive wheels. The vehicle's fuel was drained from the tank and test fuel added to 40% of tank volume. Leaded or non-leaded Indolene type test fuel was used as required. Each vehicle was then given a preparatory ten minute road test to purge any remaining non-test fuel.

2.4 TEST SEQUENCE

To some degree, the modification of test procedures during the program dictated the number of subgroups. Each subgroup or vehicle set is a class of vehicles sharing some common parameter (i.e., test sequence, cylinder number, manufacturer, etc.). The various vehicle sets and the tests to which they were subjected are presented in the Appendices.

2.5 EXHAUST EMISSION TEST PROCEDURES

At each test point, an exhaust emission test was performed. The 1975 Federal Test Procedure (FTP) as specified in 40 F.R. 126 dated June 30, 1975, was used for the conduct of cold start tests. A modified version of the FTP was used for hot start tests.

2.6 ENGINE ADJUSTMENT AND KIT INSTALLATION PROCEDURES

Mechanical alterations of engine adjustments were performed throughout the test sequence. At the time of vehicle receipt at the laboratory an analysis was made of the condition of the primary engine components. Measurements included:

Dwell
Basic timing
Idle RPM
Fast idle RPM
Tailpipe idle CO
Choke

As-received parameters were left as measured with two exceptions. Pre-1975 cars whose timing was not within ± 3° of manufacturer recommended settings were adjusted to manufacturer specifications. In addition, pre-1975 vehicles whose tailpipe idle CO readings were not within the range of 5 ± 2.5% were adjusted to 5% CO. The purpose of the adjustments was to eliminate extremes in these regards. Prior to startup of the program an evaluation was made of test results from previous programs to determine average tailpipe CO levels for non-converter equipped vehicles. This average CO value of 5% was applied to those pre-1975 vehicles tested in the program.

For the tuneup test, vehicles were tuned to manufacturer's specifications. The 1968-1974 vehicles received new plugs, points, and condenser on a routine basis. Other minor components such as plug wires, fuel filter, air filter, PCV valve, and distributor rotor, were replaced, as needed, at the mechanic's option. Replacement of parts on 1975 model-year vehicles was solely on an as-needed basis at the mechanic's option.

With regard to device installation and/or parametric adjustment procedures, certain steps were followed to optimize overall emission and fuel economy performance. During Phase I of the program, parametric adjustments included setting the basic timing such that it was advanced 7 1/2 degrees from manufacturer specifications. Also, during this phase, no choke adjustments were made. During Phase II of the program, chokes were set three increments leaner than manufacturer specifications for those tests requiring parametric adjustment and basic timing was advanced only 5 degrees from manufacturer's specifications. The latter adjustment was performed to minimize an increase in NO_x emission. (See Table 2).

	Dwell	Basic Timing	Idle RPM	FI RPM	Idle CO	Choke
Phase I						
Baseline	N/A	M/S ± 3°*	N/A	N/A	5% ± 2 1/2*	N/A
Tuneup	M/S	M/S	M/S	M/S	M/S	M/S
Parametric	N/A	M/S + 7 1/2°	M/S	M/S	LBI	N/A
Phase II						
Baseline	N/A	M/S ± 3°	N/A	N/A	5% ± 2 1/2	N/A
Tuneup	M/S	M/S	M/S	M/S	M/S	M/S
Parametric	N/A	M/S + 5°	M/S	M/S	LBI	3L**

N/A = Not Adjusted
M/S = Manufacturer Specifications
* = If outside boundary set to spec.
LBI = Lean Best Idle
** = 3 lean from manufacturer specifications

Table 2. Engine Parameter Status at Each Test Point during Phase I and Phase II Testing.

After installation of the EGR system or the oversized PCV valve (which acts as the air bleed), certain adjustments were required for the optimum combination of emission reduction, performance, and driveability. Carburetors with adjustable chokes were either turned three steps leaner from manufacturer specifications (Phase II) or were not adjusted (Phase I). Corrective adjustments to the idle mixture consisted of removing the mixture limiter caps, if necessary, and adjusting the mixture screw (s) about two turns richer than as-received. This step provided a richer than lean-best-idle (LBI) condition.

The next step was adjustment of the idle speed to 20 rpm higher than manufacturer specifications in drive, or 30 rpm higher in neutral depending on which was applicable. Single barrel carburetors were then adjusted to the lean condition until the manufacturer specified rpm was reached. Both adjustment screws of two or four barrel carburetors were utilized sequentially so that a balanced condition resulted. If at this point the idle was too rough, the mixture screws were richened by 1/8 turn increments (maintaining balance) so as to prevent the too lean condition from causing lean misfire and driveability problems.

3. SUMMARY OF TEST RESULTS

In each of the tables presented in this section, percentages are based on vehicle average data from the first test point listed minus vehicle average data from the second test point listed. All comparisons are referenced to the first test point. In the appendices, however, percentages are calculated for each vehicle and, when combined for two or more vehicles, reflect the average percentages for the included vehicles.

The 1968-1972 model-year segment of the sample was comprised of eighteen vehicles. Each of these vehicles was tested at the following conditions:

Baseline

Manufacturer's Specifications (Tune-up)

Manufacturer's Specifications/Parametric Adjustments/
Device Installation

Eleven of the eighteen were also tested at the Parametric Adjustments/ Device Installation (Without Tune-up) condition. Both cold and hot start data are available for the eleven but only hot start data are available for the remaining seven vehicles.

Tables are provided to indicate results at various test conditions and associated changes as follows:

Table 3, Baseline vs. Maintenance, Hot Start, 18 vehicles

Table 4, Baseline vs. Maintenance, Cold Start, 11 vehicles

Table 5, Baseline vs. Maintenance/Parametric Adjustments/
Device, Cold Start, 11 vehicles

Table 6, Baseline vs. Maintenance/Parametric Adjustments/
Device, Cold Start, 11 vehicles

Table 7, Maintenance vs. Maintenance/Parametric Adjustments/Device, Hot Start, 18 vehicles

Table 8, Maintenance vs. Maintenance/Parametric Adjustments/Device, Cold Start, 11 vehicles

Table 9, Baseline vs. No Maintenance/Parametric Adjustments/Device, Hot Start, 11 vehicles

Table 10, Baseline vs. No Maintenance/Parametric Adjustments/Device, Cold Start, 11 vehicles

Table 11, No Maintenance/Parametric Adjustments/Device vs. Maintenance/Parametric Adjustments/Device, Hot Start, 11 vehicles

Table 12, No Maintenance/Parametric Adjustments/Device vs. Maintenance/Parametric Adjustments/Device, Cold Start, 11 vehicles

Test Condition	Hot Start FTP Emissions (gr/mi)			Fuel (mpg)
	HC	CO	NO_x	
BL	5.82	89.99	2.44	14.9
M	4.27	55.33	3.00	15.4
BL-M	1.55	34.66	- 0.56	- 0.5
BL-M	26.6 %	38.5 %	-23.0 %	- 3.4%

Table 3. Hot Start Data, 1968-1972 Model Years, Baseline vs. Maintenance on 18 Vehicles.

Test Condition	Cold Start FTP Emissions (gr/mi)			Fuel (mpg)
	HC	CO	NO_x	
BL	7.93	110.21	2.76	13.0
M	6.07	76.88	3.23	13.4
BL-M	1.85	33.32	- 0.48	- 0.4
BL-M	23.3 %	30.23%	-17.4 %	- 3.1%

Table 4. Cold Start Data, 1968-1972 Model Years, Baseline vs. Maintenance on 11 Vehicles.

Test Condition	Hot Start FTP Emissions (gr/mi)			Fuel (mpg)
	HC	CO	NO_x	
BL	5.82	89.99	2.44	14.9
M/PA/D	4.70	36.39	2.49	16.5
BL-M/PA/D	1.12	53.59	-0.04	- 1.6
BL-M/PA/D	19.2 %	59.6 %	-1.6 %	-10.7%

Table 5. Hot Start Data, 1968-1972 Model Years, Baseline vs. Maintenance/Parametric Adjustments/Device on 18 Vehicles.

Test Condition	Cold Start FTP Emissions (gr/mi)			Fuel (mpg)
	HC	CO	NO_x	
BL	7.93	110.21	2.76	13.0
M/PA/D	6.51	53.07	2.63	14.8
BL-M/PA/D	1.41	57.13	0.12	- 1.8
BL-M/PA/D	17.9 %	51.8 %	4.3 %	-13.8%

Table 6. Cold Start Data, 1968-1972 Model Years, Baseline vs. Maintenance/Parametric Adjustments/Device on 11 vehicles.

Test Condition	Hot Start FTP Emissions (gr/mi)			Fuel (mpg)
	HC	CO	NO_x	
M	4.27	55.33	3.00	15.4
M/PA/D	4.70	36.39	2.49	16.5
M-M/PA/D	- 0.43	18.93	0.51	- 1.1
M-M/PA/D	-10.1 %	34.2 %	17.0 %	- 7.1%

Table 7. Hot Start Data, 1968-1972 Model Years, Maintenance vs. Maintenance/Parametric Adjustments/Device on 18 Vehicles.

Test Condition	Cold Start FTP Emissions (gr/mi)			Fuel (mpg)
	HC	CO	NO_x	
M	6.07	76.88	3.23	13.4
M/PA/D	6.51	53.07	2.63	14.8
M-M/PA/D	-0.44	23.81	0.60	- 1.4
M-M/PA/D	-7.2 %	31.0 %	18.6 %	-10.4%

Table 8. Cold Start Data, 1968-1972 Model Years, Maintenance vs. Maintenance/Parametric Adjustments/Device on 11 Vehicles.

Test Condition	Hot Start FTP Emissions (gr/mi)			Fuel (mpg)
	HC	CO	NO_x	
BL	6.74	95.28	2.81	13.8
NM/PA/D	6.32	49.65	2.74	14.8
BL-NM/PA/D	0.42	45.63	0.08	- 0.9
BL-NM/PA/D	6.2 %	47.9 %	2.8 %	- 6.5%

Table 9. Hot Start Data, 1968-1972 Model Years, Baseline vs. No Maintenance/Parametric Adjustments/Device on 11 Vehicles.

Test Condition	Cold Start FTP Emissions (gr/mi)			Fuel (mpg)
	HC	CO	NO_x	
BL	7.93	110.21	2.76	13.0
NM/PA/D	6.70	57.39	2.73	14.0
BL-NM/PA/D	1.23	52.82	0.03	- 1.1
BL-NM/PA/D	15.5 %	47.9 %	1.1 %	- 8.5%

Table 10. Cold Start Data, 1968-1972 Model Years, Baseline Vs. No Maintenance/Parametric Adjustments/Device on 11 Vehicles.

Test Condition	Hot Start FTP Emissions (gr/mi)			Fuel (mpg)
	HC	CO	NO_x	
NM/PA/D	6.32	49.65	2.74	14.8
M/PA/D	5.39	39.48	2.70	15.8
NM/PA/D-M/PA/D	.93	10.17	.04	- 1.0
NM/PA/D-M/PA/D	14.7 %	20.5 %	1.5 %	- 6.8%

Table 11. Hot Start Data, 1968-1972 Model Years, No Maintenance/Parametric Adjustments/Device vs. Maintenance/Parametric Adjustments/Device on 11 Vehicles.

Test Condition	Cold Start FTP Emissions (gr/mi)			Fuel (mpg)
	HC	CO	NO_x	
NM/PA/D	6.70	57.39	2.73	14.0
M/PA/D	6.51	53.07	2.63	14.8
NM/PA/D-M/PA/D	0.18	4.32	0.10	- 0.7
NM/PA/D-M/PA/D	2.7 %	7.5 %	3.7 %	- 5.0%

Table 12. Cold Start Data, 1968-1972 Model Years, No Maintenance/Parametric Adjustments/Device vs. Maintenance/Parametric Adjustments/Device on 11 Vehicles.

The 1973-1974 segment of the sample was comprised of twenty vehicles. Each of these vehicles was tested at the Baseline condition. Fifteen were also tested at the Manufacturer's Specifications (Tune-up) and Manufacturer's Specifications/Parametric Adjustments/Device Installation conditions. Hot start data are available for all twenty vehicles while cold start data are available for only nine of the vehicles.

Tables are provided to indicate results at various test conditions and associated changes as follows:

Table 13, Baseline vs. Maintenance, Hot Start, 15 vehicles

Table 14, Baseline vs. Maintenance, Cold Start, 9 vehicles

Table 15, Baseline vs. Maintenance/Parametric Adjustments/ Device Hot Start, 15 vehicles

Table 16, Baseline vs. Maintenance/Parametric Adjustments/ Device, Cold Start, 9 vehicles

Table 17, Maintenance vs. Maintenance/Parametric Adjustments/ Device, Hot Start, 15 vehicles

Table 18, Maintenance vs. Maintenance/Parametric Adjustments/ Device, Cold Start, 9 vehicles

Table 19, Baseline vs. No Maintenance/Parametric Adjustments/ Device, Hot Start, 9 vehicles

Table 20, Baseline vs. No Maintenance/Parametric Adjustments/ Device, Cold Start, 9 vehicles

Table 21, No Maintenance/Parametric Adjustments/Device vs. Maintenance/Parametric Adjustments/Device, Hot Start, 9 vehicles

Table 22, No Maintenance/Parametric Adjustments/Device vs. Maintenance/Parametric Adjustments/Device, Cold Start, 9 vehicles

Test	Hot Start FTP Emissions (gr/mi)			Fuel
Condition	HC	CO	NO_x	(mpg)
BL	3.76	76.41	2.21	14.7
M	3.27	50.06	2.56	15.3
BL-M	0.49	26.35	-0.35	- 0.7
BL-M	13.0 %	34.5 %	-5.5 %	- 4.8%

Table 13. Hot Start Data, 1973-1974 Model Years, Baseline vs. Maintenance on 15 Vehicles.

Test	Cold Start FTP Emissions (gr/mi)			Fuel
Condition	HC	CO	NO_x	(mpg)
BL	4.78	91.60	2.63	12.0
M	3.92	59.55	2.90	12.7
BL-M	0.86	32.04	- 0.27	- 0.7
BL-M	18.0 %	35.0 %	-10.3 %	- 5.8%

Table 14. Cold Start Data, 1973-1974 Model Years, Baseline vs. Maintenance on 9 Vehicles

Test	Hot Start FTP Emissions (gr/mi)			Fuel
Condition	HC	CO	NO_x	(mpg)
BL	3.76	76.41	2.21	14.7
M/PA/D	3.74	40.24	3.30	16.7
BL-M/PA/D	0.02	36.17	- 1.09	- 2.0
BL-M/PA/D	.53%	47.3 %	-49.3 %	-13.6%

Table 15. Hot Start Data, 1973-1974 Model Years, Baseline vs. Maintenance/Parametric Adjustments/Device on 15 Vehicles.

Test	Cold Start FTP Emissions (gr/mi)			Fuel
Condition	HC	CO	NO_x	(mpg)
BL	4.78	91.60	2.63	12.0
M/PA/D	4.42	49.06	3.71	13.9
BL-M/PA/D	0.36	42.53	- 1.07	- 1.9
BL-M/PA/D	7.5 %	46.4 %	-40.7 %	-15.8%

Table 16. Cold Start Data, 1973-1974 Model Years, Baseline vs. Maintenance/Parametric Adjustments/Device on 9 Vehicles.

Test Condition	Hot Start FTP Emissions (gr/mi)			Fuel (mpg)
	HC	CO	NO_x	
M	3.27	50.06	2.56	15.3
M/PA/D	3.74	40.24	3.30	16.7
M-M/PA/D	- 0.47	9.82	- 0.74	- 1.3
M-M/PA/D	-14.4 %	19.6 %	-28.9 %	- 8.5%

Table 17. Hot Start Data, 1973-1974 Model Years, Maintenance vs. Maintenance/Parametric Adjustments/Device on 15 Vehicles.

Test Condition	Cold Start FTP Emissions (gr/mi)			Fuel (mpg)
	HC	CO	NO_x	
M	3.92	59.55	2.90	12.7
M/PA/D	4.42	49.06	3.71	13.9
M-M/PA/D	- 0.50	10.49	- 0.80	- 1.2
M-M/PA/D	-12.8 %	17.6 %	-27.6 %	- 9.4%

Table 18. Cold Start Data, 1973-1974 Model Years, Maintenance vs. Maintenance/Parametric Adjustments/Device on 9 Vehicles.

Test Condition	Hot Start FTP Emissions (gr/mi)			Fuel (mpg)
	HC	CO	NO_x	
BL	3.92	80.95	2.38	12.6
NM/PA/D	3.59	37.63	3.58	14.6
BL-NM/PA/D	0.33	43.32	- 1.19	- 2.0
BL-NM/PA/D	8.4 %	53.5 %	-50.0 %	-15.9%

Table 19. Hot Start Data, 1973-1974 Model Years, Baseline vs. No Maintenance/Parametric Adjustments/Device on 9 Vehicles.

Test Condition	Cold Start FTP Emissions (gr/mi)			Fuel (mpg)
	HC	CO	NO_x	
BL	4.78	91.60	2.63	12.0
NM/PA/D	3.99	44.02	3.72	14.0
BL-NM/PA/D	0.79	47.57	- 1.09	- 2.0
BL-NM/PA/D	16.5 %	51.9 %	-41.4 %	-16.7%

Table 20. Cold Start Data, 1973-1974 Model Years, Baseline vs. No Maintenance/Parametric Adjustments/Device on 9 Vehicles.

Test Condition	Hot Start FTP Emissions (gr/mi)			Fuel (mpg)
	HC	CO	NO_x	
NM/PA/D	3.59	37.63	3.58	14.6
M/PA/D	4.10	43.13	3.66	14.5
NM/PA/D-M/PA/D	- 0.51	- 5.50	-0.08	- 0.1
NM/PA/D-M/PA/D	-14.2 %	-14.6 %	-2.2 %	- 6.8%

Table 21. Hot Start Data, 1973-1974 Model Years, No Maintenance/Parametric Adjustments/Device vs. Maintenance/Parametric Adjustments/Device on 9 Vehicles.

Test Condition	Cold Start FTP Emissions (gr/mi)			Fuel (mpg)
	HC	CO	NO_x	
NM/PA/D	3.99	44.02	3.72	14.0
M/PA/D	4.42	49.06	3.71	13.9
NM/PA/D-M/PA/D	- 0.43	- 5.04	0.02	0.1
NM/PA/D-M/PA/D	-10.8 %	-11.4 %	.54%	.71%

Table 22. Cold Start Data, 1973-1974 Model Years, No Maintenance/Parametric Adjustments/Device vs. Maintenance/Parametric Adjustments/Device on 9 Vehicles.

The 1975 model-year segment of the sample was comprised of twenty-two vehicles. Each of these vehicles was tested at the Baseline condition. Twenty were also tested at the Manufacturer's Specification (Tune-up) and Manufacturer's Specification/Parametric Adjustments/Device Installation conditions. Both hot and cold start data are available for the twenty vehicles.

Tables are provided to indicate results at various test conditions and associated changes as follows:

Table 23, Baseline vs. Maintenance, Hot Start, 20 vehicles

Table 24, Baseline vs. Maintenance, Cold Start, 20 vehicles

Table 25, Baseline vs. Maintenance/Parametric Adjustments/
Device, Cold Start, 20 vehicles

Table 26, Baseline vs. Maintenance/Parametric Adjustments/ Device, Cold Start, 20 vehicles

Table 27, Maintenance vs. Maintenance/Parametric Adjustments/ Device, Hot Start, 20 vehicles

Table 28, Maintenance vs. Maintenance/Parametric Adjustments/ Device, Cold Start, 20 vehicles

Table 29, Baseline vs. No Maintenance/Parametric Adjustments/ Device, Hot Start, 20 vehicles

Table 30, Baseline vs. No Maintenance/Parametric Adjustments/ Device, Cold Start, 20 vehicles

Table 31, No Maintenance/Parametric Adjustments/Device vs. Maintenance/Parametric Adjustments/Device, Hot Start, 20 vehicles

Table 32, No Maintenance/Parametric Adjustments/Device vs. Maintenance/Parametric Adjustments/Device, Cold Start, 20 vehicles

Test Condition	Hot Start FTP Emissions (gr/mi)			Fuel (mpg)
	HC	CO	NO_x	
BL	1.71	44.45	1.40	14.5
M	1.53	37.62	1.36	14.5
BL-M	0.18	6.83	0.05	0.0
BL-M	10.6 %	15.3 %	3.6 %	0.0%

Table 23. Hot Start Data, 1975 Model Year, Baseline vs. Maintenance on 20 Vehicles.

Test Condition	Cold Start FTP Emissions (gr/mi)			Fuel (mpg)
	HC	CO	NO_x	
BL	2.04	49.66	1.48	13.9
M	1.95	43.69	1.42	13.9
BL-M	0.10	5.97	0.06	0.0
BL-M	4.9 %	12.0 %	4.1 %	0.0%

Table 24. Cold Start Data, 1975 Model Year, Baseline vs. Maintenance on 20 Vehicles.

Test Condition	Hot Start FTP Emissions (gr/mi) HC	CO	NO_x	Fuel (mpg)
BL	1.71	44.45	1.40	14.5
M/PA/D	1.06	19.36	2.13	15.8
BL-M/PA/D	0.65	25.09	0.73	- 1.4
BL-M/PA/D	38.0 %	56.4 %	52.1 %	- 9.7%

Table 25. Hot Start Data, 1975 Model Year, Baseline vs. Maintenance/ Parametric Adjustments/Device on 20 Vehicles.

Test Condition	Cold Start FTP Emissions (gr/mi) HC	CO	NO_x	Fuel (mpg)
BL	2.04	49.66	1.48	13.9
M/PA/D	1.41	22.94	2.23	15.2
BL-M/PA/D	0.63	26.72	- 0.74	- 1.3
BL- M/PA/D	30.9 %	53.8 %	-50.0 %	- 9.3%

Table 26. Cold Start Data, 1975 Model Year, Baseline vs. Maintenance/ Parametric Adjustments/Device on 20 Vehicles.

Test Condition	Hot Start FTP Emissions (gr/mi) HC	CO	NO_x	Fuel (mpg)
M	1.53	37.62	1.36	14.5
M/PA/D	1.06	19.36	2.13	15.8
M-M/PA/D	0.46	18.27	- 0.77	- 1.4
M-M/PA/D	30.1 %	48.6 %	-56.7 %	- 9.7%

Table 27. Hot Start Data, 1975 Model Year, Maintenance vs. Maintenance/Parametric Adjustments/Device on 20 Vehicles.

Test Condition	Cold Start FTP Emissions (gr/mi) HC	CO	NO_x	Fuel (mpg)
M	1.95	43.69	1.42	13.9
M/PA/D	1.41	22.94	2.23	15.2
M-M/PA/D	0.54	20.75	- 0.81	- 1.3
M-M/PA/D	27.7 %	47.5 %	-57.0 %	- 9.4%

Table 28. Cold Start Data, 1975 Model Year, Maintenance vs. Maintenance/Parametric Adjustments/Device on 20 Vehicles.

Test Condition	Hot Start FTP Emissions (gr/mi)			Fuel (mpg)
	HC	CO	NO_x	
BL	1.68	47.02	1.36	13.4
M/PA/ND	1.49	32.26	1.70	14.1
BL-M/PA/ND	0.19	14.76	- 0.34	- 0.6
BL-M/PA/ND	11.3 %	31.4 %	-25.0 %	- 4.5%

Table 29. Hot Start Data, 1975 Model Year, Baseline vs. Maintenance/Parametric Adjustments/No Device on 15 Vehicles.

Test Condition	Cold Start FTP Emissions (gr/mi)			Fuel (mpg)
	HC	CO	NO_x	
BL	2.03	52.77	1.44	12.9
M/PA/ND	1.90	38.13	1.79	13.5
BL-M/PA/ND	0.13	14.64	- 0.35	- 0.6
BL-M/PA/ND	6.4 %	27.7 %	-24.3 %	- 4.7%

Table 30. Cold Start Data, 1975 Model Year, Baseline vs. Maintenance/Parametric Adjustments/No Device on 15 Vehicles.

Test Condition	Hot Start FTP Emissions (gr/mi)			Fuel (mpg)
	HC	CO	NO_x	
M/PA/ND	1.49	32.26	1.70	14.1
M/PA/D	0.97	20.75	1.94	14.7
M/PA/ND-M/PA/D	0.52	11.51	- 0.23	- 0.6
M/PA/ND-M/PA/D	34.9 %	35.7 %	-13.5 %	- 4.3%

Table 31. Hot Start Data, 1975 Model Year, Maintenance/Parametric Adjustments/No Device vs. Maintenance/Parametric Adjustments/Device on 15 Vehicles.

Test Condition	Cold Start FTP Emissions (gr/mi)			Fuel (mpg)
	HC	CO	NO_x	
M/PA/ND	1.90	38.13	1.79	13.5
M/PA/D	1.31	24.41	2.04	14.1
M/PA/ND-M/PA/D	0.59	13.72	- 0.26	- 0.6
M/PA/ND-M/PA/D	31.1 %	36.0 %	-14.5 %	- 4.4%

Table 32. Cold Start Data, 1975 Model Year, Maintenance/Parametric Adjustments/No Device vs. Maintenance/Parametric Adjustments/Device on 15 Vehicles.

In Tables 33, 34 and 35, we show the summarized hot start results for each vehicle class for the baseline and full device installed condition and a comparison of the two. Data associated with the Parametric Adjustment/Device test point reflect both maintained and unmaintained device installed test conditions. Also shown in these tables are the 90 percent confidence intervals associated with the emission and fuel economy changes.

Test Condition	Hot Start FTP Emissions (gr/mi) HC	CO	NOx	Fuel (mpg)
BL	5.82	89.99	2.44	14.94
PA/D	4.70	36.39	2.49	16.49
BL-PA/D	1.12	53.59	- 0.04	- 1.55
BL-PA/D(CI)	± 0.88	±12.94	± 0.34	± 0.64
BL-PA/D	13.4 %	57.3 %	- 8.3 %	-11.1 %
BL-PA/D(CI)	±10.1 %	± 8.0 %	±16.5 %	± 4.7%

Table 33. Hot Start Data, 1968-1972 Model Years, Baseline as Parametric Adjustment/Device on 18 Vehicles and 90 Percent Confidence Intervals (CI).

Test Condition	Hot Start FTP Emissions (gr/mi) HC	CO	NOx	Fuel (mpg)
BL	3.80	75.43	2.13	14.36
PA/D	3.62	38.28	3.21	16.29
BL-PA/D	0.18	37.15	- 1.07	- 1.93
BL-PA/D(CI)	± 0.43	± 8.18	± 0.25	± 0.40
BL-PA/D	3.2 %	48.1 %	-61.6 %	-14.9 %
BL-PA/D(CI)	±10.1 %	± 8.2%	±18.5 %	± 3.8 %

Table 34. Hot Start Data, 1973-1974 Model Years, Baseline vs. Parametric Adjustments/Device on 20 Vehicles and 90 Percent Confidence Intervals (CI).

Test Condition	Hot Start FTP Emissions (gr/mi) HC	CO	NO_x	Fuel (mpg)
BL	1.77	68.65	1.47	14.55
PA/D	1.13	30.95	2.25	15.89
BL-PA/D	0.64	37.70	- 0.77	- 1.34
BL-PA/D(CI)	± 0.23	± 5.92	± 0.32	± 0.46
BL-PA/D	28.7 %	51.9 %	-71.3 %	- 9.5 %
BL-PA/D(CI)	±16.8 %	± 4.5 %	±33.2 %	± 3.1 %

Table 35. Hot Start Data, 1975 Model Year, Baseline vs. Parametric Adjustments/Device on 22 Vehicles and 90 Percent Confidence Interval (CI).

In Tables 36, 37 and 38, we show summarized cold start results (where cold start tests were conducted) for each vehicle class for the baseline and full device installed condition and a comparison of the two. Again, data associated with the Parametric Adjustment/Device Test point reflect both maintained and unmaintained device installed test conditions. Also shown in these tables are the 90 percent confidence intervals associated with the emission and fuel economy changes.

Test Condition	Cold Start FTP Emissions (gr/mi) HC	CO	NO_x	Fuel (mpg)
BL	7.93	110.21	2.76	12.97
PA/D	6.51	53.07	2.63	14.75
BL-PA/D	1.41	57.13	0.12	- 1.79
BL-PA/D(CI)	± 1.56	± 19.31	± 0.50	± 0.84
BL-PA/D	11.7 %	49.6 %	0.6 %	-13.9 %
BL-PA/D(CI)	±15.2 %	± 13.0 %	±20.4 %	± 6.7 %

Table 36. Cold Start Data, 1968-1972 Model Years, Baseline vs. Parametric Adjustments/Device on 11 Vehicles and 90 Percent Confidence Intervals.

Test Condition	Cold Start FTP Emissions (gr/mi) HC	CO	NO_x	Fuel (mpg)
BL	4.94	92.00	2.63	11.91
PA/D	4.41	47.01	3.68	14.02
BL-PA/D	0.53	45.00	- 1.06	- 2.11
BL-PA/D(CI)	± 0.85	±16.32	± 0.54	± 0.67
BL-PA/D	9.8 %	46.9 %	-61.7 %	-19.8 %
BL-PA/D(CI)	±15.1 %	±13.3 %	±39.9 %	± 7.5 %

Table 37. Cold Start Data, 1973-1974 Model Years, Baseline vs. Parametric Adjustments/Device on 10 Vehicles and 90 Percent Confidence Intervals.

Test Condition	Cold Start FTP Emissions (gr/mi) HC	CO	NO_x	Fuel (mpg)
BL	2.09	49.92	1.56	14.05
PA/D	1.48	23.55	2.34	15.29
BL-PA/D	0.60	26.37	- 0.78	- 1.24
BL-PA/D(CI)	± 0.24	± 8.17	± 0.31	± 0.46
BL-PA/D	25.6 %	49.6 %	-63.1 %	- 9.1 %
BL-PA/D(CI)	±12.7 %	± 8.0 %	±31.0 %	± 3.3 %

Table 38. Cold Start Data, 1975 Model Year, Baseline vs. Parametric Adjustments/Device on 22 Vehicles and 90 Percent Confidence Intervals (CI).

APPENDICES

Appendix A	Listing of Vehicle Identification Information
Appendix B	Listing of Federal Test Procedures Results on Individual Vehicles
Appendix C	Exhaust Emissions for 1968-1972 Vehicles, Hot Start Data
Appendix D	Exhaust Emissions for 1968-1972 Vehicles, Cold Start Data
Appendix E	Exhaust Emissions for 1973-1974 Vehicles, Hot Start Data
Appendix F	Exhaust Emissions for 1973-1974 Vehicles, Cold Start Data
Appendix G	Exhaust Emissions for 1975 Vehicles, Hot Start Data
Appendix H	Exhaust Emissions for 1975 Vehicles, Cold Start Data
Appendix I	Exhaust Emissions and Statistical Summary of Baseline - Installation of Device Hot Start Data
Appendix J	Exhaust Emissions and Statisical Summary of Baseline - Installation of Device Cold Start Data

LEGEND

TABLE DESIG.	EXPLANATION
BASELINE	EXHAUST EMISSIONS IN AS RECEIVED CONDITION
MANU. TUNE-UP	EXHAUST EMISSIONS AFTER TUNE-UP PER MANUFACTURER'S SPECIFICATIONS
PARAMETRIC ADJ.*	EXHAUST EMISSIONS AFTER SPECIAL PARAMETRIC ADJUSTMENTS FOR HIGH ALTITUDE
DEVICE	EXHAUST EMISSIONS WITH INSTALLATION OR RETROFIT DEVICE ONLY
TUNE-UP/PARA ADJ	EXHAUST EMISSIONS AFTER TUNE-UP PER MANUFACTURER'S SPECIFICATIONS AND SPECIAL PARAMETRIC ADJUSTMENTS FOR HIGH ALTITUDE
TUNE-UP/DEVICE	EXHAUST EMISSIONS AFTER TUNE-UP PER MANUFACTURER'S SPECIFICATIONS AND INSTALLATION OF RETROFIT DEVICE
PARA ADJ/DEVICE	EXHAUST EMISSIONS AFTER SPECIAL PARAMETRIC ADJUSTMENTS FOR HIGH ALTITUDE AND INSTALLATION OF RETROFIT DEVICE
TUNEUP/PARADJ/DEV	EXHAUST EMISSIONS AFTER TUNE-UP PER MANUFACTURER'S SPECIFICATIONS, SPECIAL PARAMETRIC ADJUSTMENTS FOR HIGH ALTITUDE AND INSTALLATION OF RETROFIT DEVICE.
INSTALLATION OF DEVICE	TUNEUP/PARADJ/DEV TEST OR IF THAT WAS NOT PERFORMED THE PARA ADJ/DEVICE TEST WAS USED

WHERE THE TABLE DESIGNATION INDICATES TWO DESIGNATIONS (i.e. BASELINE - MANU. TUNE-UP, BASELINE - TUNE-UP/PARADJ/DEV etc.) DATA IS CONTAINED ON THREE PAGES:

1st PAGE:	EXHAUST EMISSIONS FOR VEHICLES BASED ON 2nd LISTED DESIGNATION
2nd PAGE:	EXHAUST EMISSION REDUCTION OF 2nd DESIGNATION vs. 1st DESIGNATION
3rd PAGE:	PERCENT REDUCTION OF EMISSIONS OF 2nd DESIGNATION vs. 1st DESIGNATION.

*PARAMETRIC ADJUSTMENTS WERE AS FOLLOWS:
PHASE I: TIMING - MANUFACTURER'S SPECIFICATION PLUS 7 1/2 DEGREES; IDLE CO SET AT LEAN BEST IDLE.
PHASE II: TIMING - MANUFACTURER'S SPECIFICATION PLUS 5 DEGREES; IDLE CO SET AT LEAN BEST IDLE; CHOKE THREE LEAN OF SPECIFIED SETTING.

APPENDIX A

LISTING OF VEHICLE IDENTIFICATION INFORMATION

VEH. #	YEAR	MAKE	CID	VEH TYP	VEH OWN	CNV	AIR PMP	INT. WT.	CHOKE	TST PHASE
0016	1970	AMMO	232	AUT	GSA	NO	NO	3500	ADJ	I
0017	1970	AMMO	232	AUT	GSA	NO	NO	3500	ADJ	I
0020	1970	FORD	302	AUT	PVT	NO	NO	3500	ADJ	II
0026	1970	AMMO	304	AUT	PVT	NO	NO	3000	ADJ	I
0028	1970	FORD	200	AUT	PVT	NO	NO	2750	ADJ	I
0039	1970	AMMO	304	AUT	PVT	NO	NO	3500	ADJ	II
0043	1970	CHEV	350	AUT	PVT	NO	YES	3500	N.ADJ	II
0045	1970	CHEV	230	AUT	PVT	NO	YES	3000	N.ADJ	II
1021	1971	PLYM	360	AUT	PVT	NO	NO	4000	ADJ	I
1044	1971	PLYM	360	AUT	PVT	NO	NO	4000	ADJ	II
1046	1971	FORD	400	AUT	GSA	NO	NO	4000	ADJ	II
2041	1972	CHEV	140	AUT	PVT	NO	YES	2500	N.ADJ	II
3005	1973	PLYM	360	AUT	GSA	NO	NO	4500	N.ADJ	I
3006	1973	AMMO	360	AUT	GSA	NO	YES	4000	ADJ	I
3009	1973	AMMO	360	AUT	GSA	NO	YES	4500	ADJ	I
3010	1973	PLYM	360	AUT	GSA	NO	NO	4000	N.ADJ	I
3025	1973	PLYM	360	AUT	GSA	NO	NO	4000	N.ADJ	I
3029	1973	DODG	360	TRK	GSA	NO	NO	4000	N.ADJ	II
3030	1973	DODG	360	TRK	GSA	NO	NO	4000	N.ADJ	II
3031	1973	DODG	318	TRK	GSA	NO	NO	4000	N.ADJ	II
3032	1973	DODG	360	TRK	GSA	NO	YES	4000	N.ADJ	II
3037	1973	DODG	360	AUT	PVT	NO	YES	4000	N.ADJ	II
3040	1973	PLYM	225	AUT	GSA	NO	YES	3000	N.ADJ	II
3048	1973	DATS	108	AUT	PVT	NO	NO	2750	ADJ	II
3049	1973	AMMO	360	AUT	GSA	NO	YES	4000	ADJ	II
3054	1973	PLYM	318	AUT	PVT	NO	NO	3500	N.ADJ	II
4007	1974	PLYM	225	AUT	GSA	NO	NO	3500	N.ADJ	I
4008	1974	PLYM	225	AUT	GSA	NO	NO	3500	N.ADJ	I
4022	1974	HOND	091	AUT	PVT	NO	NO	2000	N.ADJ	I
4023	1974	FORD	140	AUT	PVT	NO	YES	3000	ADJ	I

APPENDIX A
(CONTD.)

LISTING OF VEHICLE IDENTIFICATION INFORMATION

VEH. #	YEAR	MAKE	CID	VEH TYP	VEH OWN	CNV	AIR PMP	INT. WT.	CHOKE	TST PHASE
4027	1974	OPEL	116	AUT	PVT	NO	NO	2500	ADJ	I
4038	1974	PLYM	318	AUT	PVT	NO	NO	3500	N.ADJ	II
5002	1975	DODG	225	TRK	GSA	NO	NO	4000	N.ADJ	I
5003	1975	CHEV	250	TRK	GSA	YES	NO	4000	N.ADJ	I
5004	1975	CHEV	250	TRK	GSA	YES	NO	4000	N.ADJ	I
5011	1975	DATS	085	AUT	PVT	NO	YES	3000	ADJ	I
5012	1975	AMMO	258	AUT	PVT	NO	NO	3500	ADJ	I
5013	1975	CHEV	350	TRK	PVT	YES	YES	4000	N.ADJ	I
5024	1975	BUIC	231	AUT	PVT	YES	NO	3000	ADJ	I
5034	1975	CHEV	140	AUT	PVT	YES	YES	2750	ADJ	II
5035	1975	CHEV	350	AUT	PVT	YES	NO	4000	ADJ	II
5036	1975	DATS	085	AUT	PVT	NO	YES	3000	ADJ	II
5047	1975	CHEV	400	AUT	PVT	YES	YES	4500	ADJ	II
5052	1975	BUIC	350	AUT	PVT	YES	NO	4500	ADJ	II
5053	1975	FORD	302	AUT	PVT	YES	YES	3500	N.ADJ	II
5055	1975	CHRY	318	AUT	PVT	YES	YES	4000	N.ADJ	II
5056	1975	BUIC	350	AUT	PVT	YES	NO	4000	ADJ	II
5057	1975	CHEV	350	AUT	PVT	YES	NO	4000	ADJ	II
5058	1975	CHEV	350	AUT	PVT	YES	NO	4500	ADJ	II
5059	1975	OLDS	455	AUT	PVT	YES	NO	5000	ADJ	II
5060	1975	CHEV	350	AUT	PVT	YES	NO	4000	ADJ	II
5061	1975	OLDS	260	AUT	PVT	YES	NO	4000	ADJ	II
5062	1975	OLDS	350	AUT	PVT	YES	NO	4500	ADJ	II
5063	1975	OLDS	350	AUT	PVT	YES	NO	4000	ADJ	II
8018	1968	AMMO	232	AUT	GSA	NO	NO	3500	ADJ	I
8051	1968	OLDS	455	AUT	PVT	NO	NO	4500	N.ADJ	II
9019	1969	FORD	250	AUT	GSA	NO	NO	3500	ADJ	I
9033	1969	CHEV	307	AUT	PVT	NO	YES	3500	N.ADJ	II
9042	1969	PLYM	318	AUT	PVT	NO	NO	4000	N.ADJ	II
9050	1969	FORD	302	AUT	PVT	NO	NO	4000	ADJ	II

APPENDIX B

LISTING OF FEDERAL TEST PROCEDURES RESULTS ON INDIVIDUAL VEHICLES

				HOT 74 COMPOSITE					COLD 1975 COMPOSITE				
				GRAMS PER MILE					GRAMS PER MILE				
VEH. NO.	MAKE	VEH TYP	VEH OWN	HC	CO	CO2	NOX	MPG	HC	CO	CO2	NOX	MPG
0016	AMMO	AUT	GSA										
BASELINE				4.26	65.05	389.2	2.91	17.58					
MANU. TUNE-UP				3.49	29.28	428.6	3.58	18.27	3.79	34.95	441.6	3.60	17.45
TUNEUP/PARADJ/DEV				3.86	36.34	418.3	3.06	18.20	4.04	39.04	431.1	3.17	17.57
0017	AMMO	AUT	GSA										
BASELINE				3.62	54.35	355.0	2.42	19.64					
MANU. TUNE-UP				3.42	40.25	414.8	3.40	18.15	3.86	47.20	426.5	3.38	17.31
TUNEUP/PARADJ/DEV				3.69	16.54	424.2	2.48	19.21	3.90	19.50	437.2	2.55	18.48
0020	FORD	AUT	PVT										
BASELINE				11.10	94.35	510.8	3.77	12.78	10.82	97.08	525.7	3.93	12.46
MANU. TUNE-UP				4.87	27.06	547.5	4.22	14.66	5.08	30.34	561.4	4.26	14.20
PARA ADJ/DEVICE				9.84	26.47	511.2	3.54	15.20	10.34	28.39	528.6	3.69	14.65
TUNEUP/PARADJ/DEV				4.84	18.05	456.9	2.86	17.73	5.03	19.58	471.5	2.90	17.13
0026	AMMO	AUT	PVT										
BASELINE				3.00	59.67	435.0	1.38	16.49					
MANU. TUNE-UP				2.62	35.73	485.4	1.38	16.14	3.72	60.95	487.3	1.23	14.92
TUNEUP/PARADJ/DEV				2.83	24.46	462.1	1.51	17.42	3.98	53.87	459.2	1.29	15.95
0028	FORD	AUT	PVT										
BASELINE				3.13	49.46	419.5	2.27	17.50					
MANU. TUNE-UP				2.96	15.31	386.1	4.21	21.15	3.15	21.07	398.4	4.23	20.10
TUNEUP/PARADJ/DEV				3.09	13.70	392.0	2.83	20.96	3.22	17.51	402.8	2.87	20.15
0039	AMMO	AUT	PVT										
BASELINE				6.86	117.90	549.0	1.58	11.74	11.46	153.54	576.0	1.53	10.40
MANU. TUNE-UP				6.50	122.82	529.2	1.59	11.95	12.59	156.17	551.4	1.52	10.61
PARA ADJ/DEVICE				7.05	64.30	489.9	2.03	14.47	7.81	80.72	507.4	1.97	13.47
TUNEUP/PARADJ/DEV				5.06	75.18	562.4	1.92	12.74	10.33	108.74	584.9	1.85	11.25
0043	CHEV	AUT	PVT										
BASELINE				5.70	66.74	466.0	3.08	15.07	7.00	95.04	469.5	2.72	13.85
MANU. TUNE-UP				4.08	35.61	453.1	2.75	17.00	4.85	60.16	458.3	2.52	15.62
PARA ADJ/DEVICE				8.10	13.85	481.5	2.36	16.78	8.63	33.48	493.7	2.20	15.47
TUNEUP/PARADJ/DEV				5.77	16.14	452.3	2.05	17.90	6.24	31.38	461.6	1.91	16.72
0045	CHEV	AUT	PVT										
BASELINE				7.38	89.75	335.6	2.01	17.75	7.94	101.14	344.6	1.87	16.79
MANU. TUNE-UP				3.33	37.21	371.0	1.90	20.17	4.03	43.92	381.0	1.86	19.18
PARA ADJ/DEVICE				7.53	60.22	400.6	1.04	17.10	7.31	65.23	411.9	0.99	16.51
TUNEUP/PARADJ/DEV				9.67	46.09	325.8	0.96	20.69	9.63	49.33	338.4	0.96	19.88
1021	PLYM	AUT	PVT										
BASELINE				6.86	129.56	494.9	1.45	12.32					
MANU. TUNE-UP				3.75	55.50	585.1	2.86	12.97	3.97	57.38	607.8	2.91	12.49
TUNEUP/PARADJ/DEV				3.58	29.44	596.0	2.29	13.58	3.85	30.58	617.1	2.34	13.10

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LISTING OF FEDERAL TEST PROCEDURES RESULTS ON INDIVIDUAL VEHICLES

				HOT 74 COMPOSITE					COLD 1975 COMPOSITE				
				GRAMS PER MILE					GRAMS PER MILE				
VEH. NO.	MAKE	VEH TYP	VEH OWN	HC	CO	CO2	NOX	MPG	HC	CO	CO2	NOX	MPG
1044	PLYM	AUT	PVT										
BASELINE				6.26	127.04	541.1	2.83	11.67	6.74	129.64	563.1	2.91	11.26
MANU. TUNE-UP				5.06	79.23	584.1	3.19	12.25	5.64	94.56	590.2	3.21	11.73
PARA ADJ/DEVICE				4.89	54.28	599.4	2.44	12.68	5.22	57.62	620.9	2.51	12.19
TUNEUP/PARADJ/DEV				2.70	9.39	536.8	1.36	15.85	3.28	14.39	556.2	1.41	15.06
1046	FORD	AUT	GSA										
BASELINE				3.93	50.19	689.4	3.80	11.37	4.03	57.43	718.1	3.64	10.81
MANU. TUNE-UP				4.29	48.94	708.4	3.60	11.11	4.65	67.29	733.8	3.49	10.39
PARA ADJ/DEVICE				4.83	41.75	724.5	3.11	11.02	4.96	46.72	758.9	3.10	10.47
TUNEUP/PARADJ/DEV				4.29	30.88	689.8	3.53	11.80	4.46	36.68	720.6	3.51	11.20
2041	CHEV	AUT	PVT										
BASELINE				2.80	41.48	385.2	2.65	19.32	3.22	51.96	405.2	2.73	17.85
MANU. TUNE-UP				1.63	33.55	469.9	1.90	16.82	2.22	45.11	491.2	1.89	15.60
PARA ADJ/DEVICE				4.36	42.65	406.3	3.45	18.22	4.38	47.22	420.1	3.49	17.46
TUNEUP/PARADJ/DEV				2.78	29.99	384.3	2.94	20.16	3.34	39.77	400.1	2.98	18.76
3005	PLYM	AUT	GSA										
BASELINE				3.92	88.12	617.8	1.74	11.55					
PARAMETRIC ADJ.				2.69	41.81	628.9	2.30	12.62	3.06	47.66	650.2	2.22	12.08
PARA ADJ/DEVICE				2.63	39.46	631.0	2.60	12.65	2.89	41.65	651.2	2.59	12.23
3006	AMMO	AUT	GSA										
BASELINE				4.92	67.08	590.5	3.41	12.47					
MANU. TUNE-UP				3.94	37.85	587.8	3.47	13.45	4.36	48.93	599.2	3.15	12.86
TUNEUP/PARADJ/DEV				4.32	22.54	581.2	4.36	14.08	4.84	36.71	593.2	3.81	13.32
3009	AMMO	AUT	GSA										
BASELINE				4.58	72.11	587.7	1.66	12.40					
PARAMETRIC ADJ.				4.70	28.57	589.9	2.17	13.66	4.87	32.28	601.7	2.11	13.29
PARA ADJ/DEVICE				4.31	21.47	610.5	2.54	13.49	4.38	25.12	627.1	2.46	13.04
3010	PLYM	AUT	GSA										
BASELINE				2.49	44.03	677.1	3.56	11.77					
MANU. TUNE-UP				2.07	21.61	629.8	3.18	13.24	2.57	24.09	643.4	3.11	12.87
TUNEUP/PARADJ/DEV				2.66	17.78	597.5	4.00	14.00	2.99	18.37	611.6	3.80	13.66
3025	PLYM	AUT	GSA										
BASELINE				1.70	49.50	642.4	2.25	12.23					
MANU. TUNE-UP				1.54	32.23	696.9	2.80	11.80	1.90	35.90	722.5	2.84	11.31
PARA ADJ/DEVICE				2.28	36.21	591.9	4.09	13.53	2.71	37.22	610.5	4.20	13.10
3029	DODG	TRK	GSA										
BASELINE				3.62	70.39	712.3	3.09	10.64	5.19	74.46	745.6	3.25	10.10
MANU. TUNE-UP				2.74	30.38	694.6	3.71	11.82	3.33	39.30	725.8	3.69	11.12
PARA ADJ/DEVICE				4.35	34.49	581.9	3.18	13.66	4.08	38.37	601.0	4.01	13.16
TUNEUP/PARADJ/DEV				3.73	19.11	646.3	4.82	12.90	4.21	25.45	674.5	4.83	12.19

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LISTING OF FEDERAL TEST PROCEDURES RESULTS ON INDIVIDUAL VEHICLES

VEH. NO.	MAKE	VEH TYP	VEH OWN	HOT 74 COMPOSITE					COLD 1975 COMPOSITE				
				GRAMS PER MILE					GRAMS PER MILE				
				HC	CO	CO2	NOX	MPG	HC	CO	CO2	NOX	MPG
3030	DODG	TRK	GSA										
BASELINE				5.46	116.12	708.5	1.33	9.77	5.79	114.23	738.5	1.40	9.48
MANU. TUNE-UP				2.56	41.03	656.1	2.78	12.18	2.93	44.50	678.1	2.73	11.72
PARA ADJ/DEVICE				2.79	27.79	692.5	2.79	11.91	3.45	34.16	707.4	2.74	11.50
TUNEUP/PARADJ/DEV				3.57	34.67	636.3	4.20	12.64	4.13	39.49	656.5	4.11	12.13
3031	DODG	TRK	GSA										
BASELINE				5.84	90.84	595.6	2.57	11.73	6.40	95.67	618.6	2.56	11.25
TUNE-UP/DEVICE				4.44	46.68	647.0	2.39	12.08	5.05	54.63	673.7	2.37	11.44
PARA ADJ/DEVICE				4.59	25.51	655.4	4.03	12.50	4.80	28.58	660.4	3.82	12.32
TUNEUP/PARADJ/DEV				4.02	24.78	513.8	3.57	15.69	4.31	28.51	530.8	3.49	15.06
3032	DODG	TRK	GSA										
BASELINE				3.64	80.09	755.4	3.24	9.94	4.76	100.79	768.0	2.98	9.43
MANU. TUNE-UP				3.33	37.15	821.7	3.92	9.97	3.92	44.90	808.6	3.90	9.95
PARA ADJ/DEVICE				4.27	29.81	667.2	5.21	12.20	4.98	42.04	685.3	4.97	11.57
TUNEUP/PARADJ/DEV				5.16	43.00	577.0	4.65	13.43	5.38	49.08	593.4	4.54	12.91
3037	DODG	AUT	PVT										
BASELINE				1.83	56.92	653.4	3.12	11.86	2.34	68.37	674.1	3.21	11.25
MANU. TUNE-UP				1.76	40.42	679.8	3.46	11.85	2.75	73.66	706.7	3.19	10.68
PARA ADJ/DEVICE				2.12	39.64	630.3	3.89	12.69	2.90	52.71	652.6	3.84	11.92
TUNEUP/PARADJ/DEV				1.55	29.17	641.4	3.32	12.82	2.02	41.07	663.3	3.19	12.09
3040	PLYM	AUT	GSA										
BASELINE				3.64	73.65	407.7	2.94	16.59	3.82	77.24	421.9	3.15	15.98
MANU. TUNE-UP				3.41	65.83	414.9	2.73	16.77	3.57	70.33	425.3	2.85	16.22
PARA ADJ/DEVICE				2.09	55.62	416.6	3.64	17.38	2.14	58.74	430.9	3.83	16.75
TUNEUP/PARADJ/DEV				3.35	57.16	416.8	4.21	17.16	3.46	59.50	432.0	4.60	16.54
3048	DATS	AUT	PVT										
BASELINE				4.72	62.29	349.1	1.21	19.21	5.03	70.11	356.7	1.11	18.38
MANU. TUNE-UP				5.38	70.84	365.1	1.13	17.98	5.79	78.43	373.8	1.05	17.22
PARA ADJ/DEVICE				4.19	41.63	335.4	1.80	21.43	4.42	45.21	345.2	1.80	20.62
TUNEUP/PARADJ/DEV				4.85	45.08	337.3	1.72	20.96	5.17	52.90	346.2	1.62	19.91
3049	AMMO	AUT	GSA										
BASELINE				3.69	115.81	704.8	1.03	9.88	6.16	143.38	721.1	1.00	9.19
MANU. TUNE-UP				3.11	42.58	625.7	3.24	12.63	3.56	52.66	632.6	3.01	12.21
PARA ADJ/DEVICE				4.91	33.34	598.5	3.51	13.32	5.59	40.43	619.5	3.90	12.67
TUNEUP/PARADJ/DEV				3.60	46.38	598.6	2.44	13.00	3.86	52.14	609.7	2.82	12.61
3054	PLYM	AUT	PVT										
BASELINE				4.03	77.10	574.2	3.46	12.53	4.52	86.52	593.6	5.59	11.93
MANU. TUNE-UP				3.61	52.66	606.8	4.25	12.66	4.51	66.96	621.5	4.15	11.98
PARA ADJ/DEVICE				3.25	26.84	587.6	5.55	13.87	3.64	32.22	609.4	5.64	13.22
TUNEUP/PARADJ/DEV				3.12	29.37	579.0	5.19	13.98	3.45	34.68	602.7	5.24	13.28
4007	PLYM	AUT	GSA										
BASELINE				3.48	71.19	342.2	1.62	19.08					
MANU. TUNE-UP				3.21	49.89	374.2	1.93	19.18	3.20	50.02	384.1	2.00	18.77
TUNEUP/PARADJ/DEV				2.82	31.20	374.3	2.84	20.53	2.82	32.19	385.6	2.83	19.94

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LISTING OF FEDERAL TEST PROCEDURES RESULTS ON INDIVIDUAL VEHICLES

				HOT 74 COMPOSITE — GRAMS PER MILE					COLD 1975 COMPOSITE — GRAMS PER MILE				
VEH. NO.	MAKE	VEH TYP	VEH OWN	HC	CO	CO2	NOX	MPG	HC	CO	CO2	NOX	MPG
4008	PLYM	AUT	GSA										
BASELINE				3.52	61.94	364.1	1.30	18.78					
PARAMETRIC ADJ.				3.37	44.92	355.8	1.30	20.31	3.56	44.74	366.1	1.44	19.82
PARA ADJ/DEVICE				3.08	40.09	361.3	1.80	20.45	3.11	40.92	371.4	1.87	19.92
4022	HOND	AUT	PVT										
BASELINE				2.78	70.87	218.2	0.49	26.23					
MANU. TUNE-UP				2.72	60.88	210.1	0.54	28.23	3.78	68.58	216.0	0.57	26.43
TUNEUP/PARADJ/DEV				2.46	39.01	223.4	1.02	30.34	3.43	46.57	228.2	1.06	28.43
4023	FORD	AUT	PVT										
BASELINE				3.40	97.95	346.4	0.74	17.36					
MANU. TUNE-UP				2.06	78.00	395.5	0.57	16.92	2.42	88.77	406.1	0.58	16.04
TUNEUP/PARADJ/DEV				2.75	67.95	363.9	1.29	18.51	3.12	74.65	373.9	1.31	17.71
4027	OPEL	AUT	PVT										
BASELINE				4.09	66.53	320.0	1.90	20.28					
MANU. TUNE-UP				4.53	63.79	333.8	1.93	19.79	4.83	65.69	343.1	2.03	19.22
TUNEUP/PARADJ/DEV				4.28	36.98	340.3	3.11	21.54	4.47	38.47	351.1	3.25	20.85
4038	PLYM	AUT	PVT										
BASELINE				4.65	76.14	557.1	2.04	12.83	5.39	89.26	574.4	2.02	12.13
MANU. TUNE-UP				4.63	58.00	548.5	1.52	13.56	4.90	65.23	566.4	1.54	12.97
PARA ADJ/DEVICE				4.36	49.50	497.7	2.64	15.06	4.69	52.33	518.0	2.78	14.43
TUNEUP/PARADJ/DEV				7.95	84.21	475.9	2.36	14.01	8.12	87.24	495.9	2.40	13.47
5002	DODG	TRK	GSA										
BASELINE				3.41	70.26	447.6	3.44	15.60	3.30	70.15	452.8	3.54	15.48
PARAMETRIC ADJ.				3.29	43.20	454.7	5.24	16.65	3.85	52.78	470.3	5.21	15.70
PARA ADJ/DEVICE				3.07	37.73	453.6	3.88	16.98	3.52	45.44	474.4	3.90	15.94
5003	CHEV	TRK	GSA										
BASELINE				2.35	42.76	553.6	1.61	14.13	3.03	51.64	557.9	1.61	13.68
MANU. TUNE-UP				1.54	20.19	527.2	2.13	15.74	2.56	29.50	528.7	2.14	15.22
TUNEUP/PARADJ/DEV				1.17	12.11	479.7	4.18	17.67	1.74	17.20	483.8	4.13	17.19
5004	CHEV	TRK	GSA										
BASELINE				1.41	31.46	530.9	0.92	15.18	1.76	34.81	537.7	1.00	14.84
PARAMETRIC ADJ.				2.99	12.25	551.6	2.38	15.29	3.69	16.74	556.3	2.43	14.93
PARA ADJ/DEVICE				0.57	11.46	532.0	2.91	16.08	0.92	13.95	539.4	3.02	15.73
5011	DATS	AUT	PVT										
BASELINE				0.60	8.50	352.2	1.40	24.15	0.67	10.75	356.7	1.42	23.63
MANU. TUNE-UP				0.48	6.40	341.9	1.45	25.11	0.60	8.65	348.3	1.46	24.40
TUNEUP/PARADJ/DEV				0.52	3.35	326.7	2.00	26.61	0.71	5.14	334.6	2.04	25.73
5012	AMMO	AUT	PVT										
BASELINE				2.23	70.26	402.7	1.82	17.06	2.25	68.40	417.9	2.01	16.67
MANU. TUNE-UP				1.99	53.88	397.3	1.28	18.18	2.13	60.40	413.7	1.35	17.22
TUNEUP/PARADJ/DEV				1.32	9.26	442.7	3.75	19.23	1.36	10.52	457.3	3.82	18.56

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LISTING OF FEDERAL TEST PROCEDURES RESULTS ON INDIVIDUAL VEHICLES

				HOT 74 COMPOSITE					COLD 1975 COMPOSITE				
				GRAMS PER MILE					GRAMS PER MILE				
VEH. NO.	MAKE	VEH TYP	VEH OWN	HC	CO	CO2	NOX	MPG	HC	CO	CO2	NOX	MPG
5013	CHEV	TRK	PVT										
BASELINE				1.28	10.35	639.2	1.75	13.46	1.50	13.47	647.9	1.83	13.17
MANU. TUNE-UP				1.11	12.59	646.3	1.32	13.26	1.33	15.60	659.1	1.40	12.90
TUNEUP/PARADJ/DEV				1.26	9.87	609.1	1.94	14.12	1.55	11.65	624.6	2.02	13.70
5024	BUIC	AUT	PVT										
BASELINE				2.54	51.78	384.0	1.08	18.75	2.94	57.43	389.9	1.22	18.13
MANU. TUNE-UP				2.78	54.96	367.3	1.08	19.19	3.15	58.52	371.0	1.24	18.77
TUNEUP/PARADJ/DEV				2.42	41.37	399.6	1.67	18.79	3.14	48.06	406.6	1.89	18.04
5034	CHEV	AUT	PVT										
BASELINE				0.53	12.07	524.6	0.63	16.28	1.00	17.04	539.8	0.68	15.58
MANU. TUNE-UP				1.41	16.63	519.6	0.65	16.13	1.91	22.13	525.2	0.69	15.68
TUNE-UP/PARA ADJ				1.41	12.53	426.6	0.91	19.69	1.77	17.27	439.0	0.98	18.81
TUNEUP/PARADJ/DEV				1.30	8.28	399.1	1.64	21.33	1.82	12.58	408.2	1.64	20.46
5035	CHEV	AUT	PVT										
BASELINE				0.76	27.62	601.7	1.53	13.71	1.29	41.25	622.8	1.60	12.83
MANU. TUNE-UP				0.80	28.93	615.4	1.38	13.38	1.39	42.05	635.4	1.46	12.57
TUNE-UP/PARA ADJ				1.34	26.25	590.9	2.39	13.95	2.05	41.23	609.0	2.38	13.05
TUNEUP/PARADJ/DEV				0.69	17.19	559.1	2.08	15.09	1.01	20.81	580.6	2.24	14.40
5036	DATS	AUT	PVT										
BASELINE				1.44	35.99	330.2	1.81	22.68	1.71	42.31	339.1	1.81	21.59
MANU. TUNE-UP				1.79	53.57	340.4	1.47	20.63	[illegible]	[illegible]	[illegible]	1.48	19.69
TUNE-UP/PARA ADJ				2.04	58.00	346.4	1.23	19.99	[illegible]	64.77	355.4	1.21	19.19
TUNEUP/PARADJ/DEV				1.04	21.34	348.4	1.96	23.04	[illegible]	25.69	[illegible]	1.93	22.17
5047	CHEV	AUT	PVT										
BASELINE				1.09	4.39	750.6	2.41	11.66	1.49	13.56	772.9	2.44	11.11
MANU. TUNE-UP				1.75	4.00	724.9	1.97	12.05	1.80	6.47	747.0	2.03	11.63
TUNE-UP/PARA ADJ				1.41	4.79	742.6	2.70	11.76	1.61	11.53	[illegible]	2.78	11.23
TUNEUP/PARADJ/DEV				0.29	1.99	725.8	2.23	12.16	0.51	4.31	[illegible]	2.30	11.60
5052	BUIC	AUT	PVT										
BASELINE				1.80	121.87	673.6	0.81	10.19	2.09	129.59	691.3	0.90	9.84
MANU. TUNE-UP				1.23	48.52	724.8	0.91	11.03	1.42	52.52	739.9	1.03	10.73
TUNE-UP/PARA ADJ				1.25	42.01	697.9	1.04	11.56	1.46	44.29	713.5	1.18	11.27
TUNEUP/PARADJ/DEV				0.94	28.92	702.7	1.57	11.82	1.13	32.42	720.9	1.68	11.45
5053	FORD	AUT	PVT										
BASELINE				0.80	7.46	681.5	0.83	12.76	1.00	11.83	702.0	0.85	12.26
MANU. TUNE-UP				0.84	7.31	681.1	2.34	12.77	1.33	16.81	694.7	2.21	12.24
TUNE-UP/PARA ADJ				0.81	4.15	630.6	3.07	13.87	1.09	10.15	645.2	2.94	13.35
TUNEUP/PARADJ/DEV				0.79	3.39	596.1	3.98	14.70	0.98	6.2[illegible]	617.8	3.90	14.07
5055	CHRY	AUT	PVT										
BASELINE				2.04	31.86	644.9	3.04	12.65	2.68	40.41	659.7	3.03	12.13
MANU. TUNE-UP				1.49	31.46	769.1	2.67	10.78	3.76	48.03	790.8	2.66	10.11
TUNE-UP/PARA ADJ				2.07	27.58	706.8	3.54	11.73	3.11	38.58	727.6	3.49	11.12
TUNEUP/PARADJ/DEV				1.69	24.69	583.4	2.82	14.14	2.27	32.30	600.2	2.76	13.49

APPENDIX B
(CONTD.)

LISTING OF FEDERAL TEST PROCEDURES RESULTS ON INDIVIDUAL VEHICLES

VEH. NO.	MAKE	VEH TYP	VEH OWN	HOT 74 COMPOSITE					COLD 1975 COMPOSITE				
				GRAMS PER MILE					GRAMS PER MILE				
				HC	CO	CO2	NOX	MPG	HC	CO	CO2	NOX	MPG
5056	BUIC	AUT	PVT										
BASELINE				1.93	50.45	581.3	1.29	13.31	2.22	58.20	595.2	1.44	12.79
MANU. TUNE-UP				1.77	49.83	608.1	1.28	12.82	2.11	58.73	621.9	1.45	12.31
TUNE-UP/PARA ADJ				2.04	54.23	592.7	1.52	12.97	2.43	62.34	607.2	1.73	12.45
TUNEUP/PARADJ/DEV				0.62	15.36	626.6	1.51	13.58	0.82	20.03	643.8	1.60	13.09
5057	CHEV	AUT	PVT										
BASELINE				1.46	54.03	624.8	0.98	12.43	1.77	59.89	645.1	1.09	11.92
MANU. TUNE-UP				1.36	43.99	606.3	1.02	13.06	1.63	55.31	622.6	1.07	12.42
TUNE-UP/PARA ADJ				1.63	49.43	576.7	1.19	13.46	1.83	56.17	592.0	1.32	12.94
TUNEUP/PARADJ/DEV				0.75	22.07	605.4	1.86	13.81	0.97	25.29	623.9	1.99	13.31
5058	CHEV	AUT	PVT										
BASELINE				2.44	62.42	574.4	1.29	13.05	2.91	66.80	589.9	1.54	12.61
MANU. TUNE-UP				1.59	57.12	660.1	0.88	11.76	1.90	62.05	689.4	1.07	11.19
TUNE-UP/PARA ADJ				1.90	60.25	628.8	0.98	12.17	2.16	61.07	640.8	1.11	11.94
TUNEUP/PARADJ/DEV				1.69	50.60	615.2	1.56	12.68	1.99	53.60	642.0	1.79	12.12
5059	OLDS	AUT	PVT										
BASELINE				1.29	47.60	691.3	1.26	11.52	1.50	48.41	717.4	1.33	11.12
MANU. TUNE-UP				1.23	34.34	670.7	1.67	12.18	1.40	36.75	697.5	1.72	11.68
TUNE-UP/PARA ADJ				0.88	18.78	604.3	1.82	13.94	1.02	18.78	621.2	1.84	13.57
TUNEUP/PARADJ/DEV				0.83	19.58	623.4	1.74	13.51	0.91	17.68	643.4	1.82	13.17
5060	CHEV	AUT	PVT										
BASELINE				2.46	72.40	546.0	1.09	13.30	2.76	75.83	567.4	1.28	12.76
MANU. TUNE-UP				2.13	64.41	562.2	0.68	13.24	2.24	58.90	579.1	0.82	13.08
TUNE-UP/PARA ADJ				1.03	28.92	555.0	0.87	14.70	1.41	30.93	566.5	1.00	14.33
TUNEUP/PARADJ/DEV				0.59	21.81	602.7	1.58	13.89	0.94	24.41	620.1	1.71	13.42
5061	OLDS	AUT	PVT										
BASELINE				2.51	68.54	567.7	1.03	12.99	2.81	75.22	580.4	1.08	12.54
MANU. TUNE-UP				2.21	80.64	566.6	1.07	12.67	2.60	90.10	579.4	1.13	12.17
TUNE-UP/PARA ADJ				1.79	39.12	534.7	1.06	14.75	2.25	43.25	544.6	1.13	14.14
TUNEUP/PARADJ/DEV				1.63	41.83	560.8	1.07	14.05	2.49	53.44	570.8	1.26	13.39
5062	OLDS	AUT	PVT										
BASELINE				2.45	54.50	661.4	1.18	11.76	2.44	53.45	683.3	1.22	11.45
MANU. TUNE-UP				1.73	49.91	696.5	1.04	11.37	1.90	53.67	717.9	1.08	10.98
TUNE-UP/PARA ADJ				1.37	30.71	694.1	1.85	11.89	2.55	39.55	706.5	2.27	11.43
TUNEUP/PARADJ/DEV				0.64	10.80	643.4	1.85	13.40	0.67	9.27	661.6	1.95	13.09
5063	OLDS	AUT	PVT										
BASELINE				2.23	54.16	567.0	1.25	13.46	2.80	57.77	581.2	1.32	13.04
MANU. TUNE-UP				1.31	33.82	590.5	0.87	13.70	1.72	39.30	608.1	0.92	13.14
TUNE-UP/PARA ADJ				1.41	27.16	571.1	1.40	14.36	1.59	28.11	583.8	1.43	14.02
TUNEUP/PARADJ/DEV				1.07	22.84	645.4	1.64	12.96	1.99	28.08	667.4	2.05	12.36
8018	AMMO	AUT	GSA										
BASELINE				5.77	103.08	336.1	1.61	17.19					
MANU. TUNE-UP				4.05	64.68	381.1	1.80	17.91	4.66	75.60	390.6	1.76	16.93
TUNEUP/PARADJ/DEV				4.74	58.14	433.0	1.01	16.46	6.16	99.36	430.3	0.82	14.65

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

APPENDIX B
(CONTD.)

LISTING OF FEDERAL TEST PROCEDURES RESULTS ON INDIVIDUAL VEHICLES

				HOT 74 COMPOSITE					COLD 1975 COMPOSITE				
				GRAMS PER MILE					GRAMS PER MILE				
VEH. NO.	MAKE	VEH TYP	VEH OWN	HC	CO	CO2	NOX	MPG	HC	CO	CO2	NOX	MPG
8051	OLDS	AUT	PVT										
BASELINE				6.59	156.13	472.6	2.22	12.01	6.84	161.97	492.4	2.34	11.55
MANU. TUNE-UP				4.27	62.34	732.5	4.87	10.52	4.84	69.74	759.1	5.20	10.04
PARA ADJ/DEVICE				4.19	70.64	587.1	1.82	12.48	4.38	75.38	609.9	1.90	11.96
TUNEUP/PARADJ/DEV				5.77	43.61	599.3	3.69	12.94	6.15	52.02	623.3	3.66	12.25
9019	FORD	AUT	GSA										
BASELINE				3.96	110.54	369.6	1.03	15.97					
MANU. TUNE-UP				3.98	91.45	423.4	1.33	15.31	4.22	101.97	428.5	1.26	14.74
TUNEUP/PARADJ/DEV				3.46	42.18	422.4	1.91	17.76	3.89	49.05	431.7	1.88	17.03
9033	CHEV	AUT	PVT										
BASELINE				11.38	124.43	401.5	2.21	14.02	14.66	149.67	411.1	2.04	12.81
MANU. TUNE-UP				6.43	73.92	459.3	2.77	14.89	7.47	92.27	468.9	2.69	13.92
PARA ADJ/DEVICE				7.26	62.10	448.6	3.39	15.59	8.50	81.54	460.7	3.21	14.41
TUNEUP/PARADJ/DEV				6.27	47.18	486.2	3.43	15.30	7.44	69.23	493.9	3.16	14.17
9042	PLYM	AUT	PVT										
BASELINE				4.53	93.76	516.6	2.43	13.08	6.47	121.23	527.8	2.30	12.01
MANU. TUNE-UP				5.23	72.19	480.4	3.70	14.54	7.81	104.11	487.5	4.04	13.13
PARA ADJ/DEVICE				4.81	59.74	518.2	2.86	14.15	4.98	58.74	537.5	2.98	13.75
TUNEUP/PARADJ/DEV				5.29	52.02	503.2	3.14	14.75	8.01	88.53	513.9	2.88	13.08
9050	FORD	AUT	PVT										
BASELINE				7.57	86.26	500.8	4.35	13.44	8.02	93.57	519.3	4.30	12.83
MANU. TUNE-UP				6.85	70.81	526.8	4.99	13.41	7.62	82.06	546.0	4.88	12.66
PARA ADJ/DEVICE				6.61	50.15	498.2	4.05	14.83	7.15	56.25	516.3	3.99	14.15
TUNEUP/PARADJ/DEV				6.85	65.74	535.0	3.81	13.45	7.73	74.14	553.9	3.73	12.77

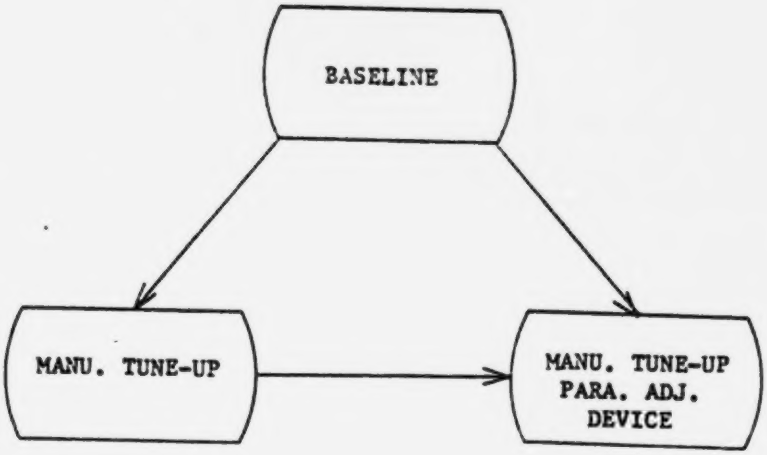
APPENDIX C

TABLES OF TEST RESULTS

DATA SET 1   PAGE C-2
DATA SET 2   PAGE C-14
DATA SET 3   PAGE C-33

1968-1972 VEHICLES

DATA SET 1
7 VEHICLES


BASELINE
MANU. TUNE-UP
MANU. TUNE-UP
PARA. ADJ.
DEVICE

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE)

	# OF VEH.	HC		CO		CO2		NOX		MPG	
		MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	4	4.16	1.2	70.54	22.1	378.8	43.4	2.08	.71	17.7	1.4
CHRYSLER	1	6.86	0.0	129.56	0.0	494.9	0.0	1.45	0.00	12.3	0.0
FORD MOTOR CO.	2	3.55	0.6	80.00	43.2	394.6	35.3	1.65	.88	16.7	1.1
GENERAL MOTORS	0										
IMPORTS	0										
*MODEL YEAR											
1968	1	5.77	0.0	103.08	0.0	336.1	0.0	1.61	0.00	17.2	0.0
1969	1	3.96	0.0	110.54	0.0	369.6	0.0	1.03	0.00	16.0	0.0
1970	4	3.50	0.6	57.13	6.7	399.7	35.3	2.24	.64	17.8	1.3
1971	1	6.86	0.0	129.56	0.0	494.9	0.0	1.45	0.00	12.3	0.0
1972	0										
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	7	4.37	1.4	81.67	32.0	399.9	54.4	1.87	.67	16.7	2.2
TRUCK	0										
*VEHICLE OWNER											
GSA	4	4.40	0.9	83.25	27.7	362.5	22.5	1.99	.84	17.6	1.5
PRIVATE OWNER	3	4.33	2.2	79.56	43.6	449.8	39.8	1.70	.49	15.4	2.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	0										
NO CNV/NO APMP	7	4.37	1.4	81.67	32.0	399.9	54.4	1.87	.67	16.7	2.2
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	5	4.15	1.0	76.50	28.4	373.9	32.1	2.05	.73	17.6	1.3
251 - 350	1	3.00	0.0	59.67	0.0	435.0	0.0	1.38	0.00	16.5	0.0
MORE THAN 350	1	6.86	0.0	129.56	0.0	494.9	0.0	1.45	0.00	12.3	0.0
*INERTIA WEIGHT											
1800 - 2799	1	3.13	0.0	49.46	0.0	419.5	0.0	2.27	0.00	17.5	0.0
2800 - 3799	5	4.12	1.0	78.54	26.2	377.0	37.8	1.87	.77	17.4	1.4
3800 - 4799	1	6.86	0.0	129.56	0.0	494.9	0.0	1.45	0.00	12.3	0.0
4800 - 5799	0										
ALL VEHICLES	7	4.37	1.4	81.67	32.0	399.9	54.4	1.87	.67	16.7	2.2

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	4	3.39	0.6	42.48	15.5	427.5	43.5	2.54	1.11	17.6	1.0
CHRYSLER	1	3.75	0.0	55.50	0.0	585.1	0.0	2.86	0.00	13.0	0.0
FORD MOTOR CO.	2	3.47	0.7	53.38	53.8	404.7	26.4	2.77	2.04	18.2	4.1
GENERAL MOTORS	0										
IMPORTS	0										
*MODEL YEAR											
1968	1	4.05	0.0	64.68	0.0	381.1	0.0	1.80	0.00	17.9	0.0
1969	1	3.98	0.0	91.45	0.0	423.4	0.0	1.33	0.00	15.3	0.0
1970	4	3.12	0.4	30.14	10.9	428.7	41.7	3.14	1.23	18.4	2.1
1971	1	3.75	0.0	55.50	0.0	585.1	0.0	2.86	0.00	13.0	0.0
1972	0										
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	7	3.47	0.5	47.46	25.3	443.5	71.2	2.65	1.15	17.1	2.6
TRUCK	0										
*VEHICLE OWNER											
GSA	4	3.73	0.3	36.41	27.6	412.0	21.4	2.53	1.13	17.4	1.4
PRIVATE OWNER	3	3.11	0.6	35.51	20.1	435.5	99.5	2.82	1.42	16.8	4.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	0										
NO CNV/NO APMP	7	3.47	0.5	47.46	25.3	443.5	71.2	2.65	1.15	17.1	2.6
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	5	3.58	0.4	48.19	30.2	406.8	21.8	2.86	1.23	18.2	2.1
251 - 350	1	2.62	0.0	35.73	0.0	485.4	0.0	1.38	0.00	16.1	0.0
MORE THAN 350	1	3.75	0.0	55.50	0.0	585.1	0.0	2.86	0.00	13.0	0.0
*INERTIA WEIGHT											
1800 - 2799	1	2.96	0.0	15.31	0.0	386.1	0.0	4.21	0.00	21.1	0.0
2800 - 3799	5	3.51	0.6	52.28	25.7	426.7	37.7	2.30	1.11	17.2	1.3
3800 - 4799	1	3.75	0.0	55.50	0.0	585.1	0.0	2.86	0.00	13.0	0.0
4800 - 5799	0										
ALL VEHICLES	7	3.47	0.5	47.46	25.3	443.5	71.2	2.65	1.15	17.1	2.6

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE-MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	4	3.39	0.6	42.48	15.5	427.5	43.5	2.54	1.11	17.6	1.0
CHRYSLER	1	3.75	0.0	55.50	0.0	585.1	0.0	2.86	0.00	13.0	0.0
FORD MOTOR CO.	2	3.47	0.7	53.38	53.8	404.7	26.4	2.77	2.04	18.2	4.1
GENERAL MOTORS	0										
IMPORTS	0										
*MODEL YEAR											
1968	1	4.05	0.0	64.68	0.0	381.1	0.0	1.80	0.00	17.9	0.0
1969	1	3.98	0.0	91.45	0.0	423.4	0.0	1.33	0.00	15.3	0.0
1970	4	3.12	0.4	30.14	10.9	428.7	41.7	3.14	1.23	18.4	2.1
1971	1	3.75	0.0	55.50	0.0	585.1	0.0	2.86	0.00	13.0	0.0
1972	0										
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	7	3.47	0.5	47.46	25.3	443.5	71.2	2.65	1.15	17.1	2.6
TRUCK	0										
*VEHICLE OWNER											
GSA	4	3.73	0.3	56.41	27.6	412.0	21.4	2.53	1.13	17.4	1.4
PRIVATE OWNER	3	3.11	0.6	35.51	20.1	485.5	99.5	2.82	1.42	16.8	4.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	0										
NO CNV/NO APMP	7	3.47	0.5	47.46	25.3	443.5	71.2	2.65	1.15	17.1	2.6
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	5	3.58	0.4	48.19	30.2	406.8	21.8	2.86	1.23	18.2	2.1
251 - 350	1	2.62	0.0	35.73	0.0	485.4	0.0	1.38	0.00	16.1	0.0
MORE THAN 350	1	3.75	0.0	55.50	0.0	585.1	0.0	2.86	0.00	13.0	0.0
*INERTIA WEIGHT											
1800 - 2799	1	2.96	0.0	15.31	0.0	386.1	0.0	4.21	0.00	21.1	0.0
2800 - 3799	5	3.51	0.6	52.28	25.7	426.7	37.7	2.30	1.11	17.2	1.3
3800 - 4799	1	3.75	0.0	55.50	0.0	585.1	0.0	2.86	0.00	13.0	0.0
4800 - 5799	0										
ALL VEHICLES	7	3.47	0.5	47.46	25.3	443.5	71.2	2.65	1.15	17.1	2.6

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE-MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	4	0.77	0.7	28.05	11.2	-48.7	8.7	-0.46	.45	0.1	1.0
CHRYSLER	1	3.11	0.0	74.06	0.0	-90.2	0.0	-1.41	0.00	-0.7	0.0
FORD MOTOR CO.	2	0.08	0.1	26.62	10.6	-10.2	61.7	-1.12	1.16	-1.5	3.0
GENERAL MOTORS	0										
IMPORTS	0										
*MODEL YEAR											
1968	1	1.72	0.0	38.40	0.0	-45.0	0.0	-0.19	0.00	-0.7	0.0
1969	1	-0.02	0.0	19.09	0.0	-53.8	0.0	-0.30	0.00	0.7	0.0
1970	4	0.38	0.3	26.99	10.1	-29.1	42.5	-0.90	.81	-0.6	2.2
1971	1	3.11	0.0	74.06	0.0	-90.2	0.0	-1.41	0.00	-0.7	0.0
1972	0										
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	7	0.90	1.1	34.22	19.8	-43.6	37.7	-0.78	.70	-0.5	1.6
TRUCK	0										
*VEHICLE OWNER											
GSA	4	0.67	0.8	26.84	12.1	-49.5	9.1	-0.54	.36	0.2	1.1
PRIVATE OWNER	3	1.22	1.6	44.05	26.5	-35.7	63.1	-1.12	1.00	-1.3	2.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	0										
NO CNV/NO APMP	7	0.90	1.1	34.22	19.8	-43.6	37.7	-0.78	.70	-0.5	1.6
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	5	0.57	0.7	28.30	10.9	-32.9	37.9	-0.82	.70	-0.6	2.0
251 - 350	1	0.38	0.0	23.94	0.0	-50.4	0.0	0.00	0.00	0.4	0.0
MORE THAN 350	1	3.11	0.0	74.06	0.0	-90.2	0.0	-1.41	0.00	-0.7	0.0
*INERTIA WEIGHT											
1800 - 2799	1	0.17	0.0	34.15	0.0	33.4	0.0	-1.94	0.00	-3.6	0.0
2800 - 3799	5	0.61	0.7	26.26	10.5	-49.7	7.9	-0.43	.39	0.2	0.9
3800 - 4799	1	3.11	0.0	74.06	0.0	-90.2	0.0	-1.41	0.00	-0.7	0.0
4800 - 5799	0										
ALL VEHICLES	7	0.90	1.1	34.22	19.8	-43.6	37.7	-0.78	.70	-0.5	1.6

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE-MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	4	16.5	10.2	39.6	12.0	-13.0	2.9	-18.8	17.2	0.4	5.6
CHRYSLER	1	45.3	0.0	57.2	0.0	-18.2	0.0	-97.2	0.0	-5.3	0.0
FORD MOTOR CO.	2	2.5	4.2	43.2	36.6	-3.3	15.9	-57.3	39.8	-8.4	17.7
GENERAL MOTORS	0										
IMPORTS	0										
*MODEL YEAR											
1968	1	29.8	0.0	37.3	0.0	-13.4	0.0	-11.8	0.0	-4.2	0.0
1969	1	-0.5	0.0	17.3	0.0	-14.6	0.0	-29.1	0.0	4.1	0.0
1970	4	10.4	6.1	47.5	18.6	-7.6	10.8	-37.2	36.2	-3.8	12.3
1971	1	45.3	0.0	57.2	0.0	-18.2	0.0	-97.2	0.0	-5.3	0.0
1972	0										
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	7	16.6	16.1	43.1	18.3	-11.0	8.8	-41.0	36.8	-2.9	9.3
TRUCK	0										
*VEHICLE OWNER											
GSA	4	13.2	13.5	33.9	16.3	-13.7	2.8	-26.1	12.0	0.9	5.9
PRIVATE OWNER	3	21.1	21.3	55.4	14.5	-7.3	13.6	-60.9	53.1	-8.0	11.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	0										
NO CNV/NO APMP	7	16.6	16.1	43.1	18.3	-11.0	8.8	-41.0	36.8	-2.9	9.3
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	5	11.7	12.2	40.9	21.1	-9.4	10.0	-38.0	28.5	-3.5	11.0
251 - 350	1	12.7	0.0	40.1	0.0	-11.6	0.0	0.0	0.0	2.1	0.0
MORE THAN 350	1	45.3	0.0	57.2	0.0	-18.2	0.0	-97.2	0.0	-5.3	0.0
*INERTIA WEIGHT											
1800 - 2799	1	5.4	0.0	69.0	0.0	8.0	0.0	-85.5	0.0	-20.9	0.0
2800 - 3799	5	13.1	11.7	35.1	14.4	-13.3	2.6	-20.9	15.6	1.1	5.1
3800 - 4799	1	45.3	0.0	57.2	0.0	-18.2	0.0	-97.2	0.0	-5.3	0.0
4800 - 5799	0										
ALL VEHICLES	7	16.6	16.1	43.1	18.3	-11.0	8.8	-41.0	36.8	-2.9	9.3

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF VEH.	HC MEAN	HC S.D.	CO MEAN	CO S.D.	CO2 MEAN	CO2 S.D.	NOX MEAN	NOX S.D.	MPG MEAN	MPG S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	4	3.78	0.8	33.87	18.1	434.4	19.4	2.01	.93	17.8	1.2
CHRYSLER	1	3.58	0.0	29.44	0.0	596.0	0.0	2.29	0.00	13.6	0.0
FORD MOTOR CO.	2	3.27	0.3	27.94	20.1	407.2	21.5	2.37	.65	19.4	2.3
GENERAL MOTORS	0										
IMPORTS	0										
*MODEL YEAR											
1968	1	4.74	0.0	58.14	0.0	433.0	0.0	1.01	0.00	16.5	0.0
1969	1	3.46	0.0	42.18	0.0	422.4	0.0	1.91	0.00	17.8	0.0
1970	4	3.37	0.5	22.76	10.1	424.1	28.9	2.47	.68	18.9	1.5
1971	1	3.58	0.0	29.44	0.0	596.0	0.0	2.29	0.00	13.6	0.0
1972	0										
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	7	3.61	0.6	31.54	15.5	449.7	67.8	2.16	.73	17.7	2.3
TRUCK	0										
*VEHICLE OWNER											
GSA	4	3.94	0.6	38.30	17.2	424.5	6.2	2.11	.87	17.9	1.1
PRIVATE OWNER	3	3.17	0.4	22.53	8.0	483.4	103.6	2.21	.66	17.3	3.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	0										
NO CNV/NO APMP	7	3.61	0.6	31.54	15.5	449.7	67.8	2.16	.73	17.7	2.3
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	5	3.77	0.6	33.38	18.5	418.0	15.5	2.26	.82	18.5	1.7
251 - 350	1	2.83	0.0	24.46	0.0	462.1	0.0	1.51	0.00	17.4	0.0
MORE THAN 350	1	3.58	0.0	29.44	0.0	596.0	0.0	2.29	0.00	13.6	0.0
*INERTIA WEIGHT											
1800 - 2799	1	3.09	0.0	13.70	0.0	392.0	0.0	2.83	0.00	21.0	0.0
2800 - 3799	5	3.72	0.7	35.53	16.1	432.0	17.7	1.99	.80	17.8	1.0
3800 - 4799	1	3.58	0.0	29.44	0.0	596.0	0.0	2.29	0.00	13.6	0.0
4800 - 5799	0										
ALL VEHICLES	7	3.61	0.6	31.54	15.5	449.7	67.8	2.16	.73	17.7	2.3

AUTOMOTIVE TESTING LABORATORIES, INC.
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EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	4	0.38	0.5	36.67	6.7	-55.6	33.7	0.06	.36	-0.1	0.8
CHRYSLER	1	3.28	0.0	100.12	0.0	-101.1	0.0	-0.84	0.00	-1.3	0.0
FORD MOTOR CO.	2	0.27	0.3	52.06	23.1	-12.6	56.8	-0.72	.23	-2.6	1.2
GENERAL MOTORS	0										
IMPORTS	0										
*MODEL YEAR											
1968	1	1.03	0.0	44.94	0.0	-96.9	0.0	0.60	0.00	0.7	0.0
1969	1	0.50	0.0	68.36	0.0	-52.8	0.0	-0.88	0.00	-1.8	0.0
1970	4	0.14	0.2	34.37	3.9	-24.5	39.7	-0.22	.23	-1.1	1.6
1971	1	3.28	0.0	100.12	0.0	-101.1	0.0	-0.84	0.00	-1.3	0.0
1972	0										
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	7	0.76	1.2	50.13	25.5	-49.8	45.0	-0.29	.52	-1.0	1.4
TRUCK	0										
*VEHICLE OWNER											
GSA	4	0.47	0.5	44.96	17.0	-62.0	28.5	-0.12	.61	-0.3	1.1
PRIVATE OWNER	3	1.16	1.8	57.03	37.3	-33.6	64.5	-0.51	.36	-1.9	1.4
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	0										
NO CNV/NO APMP	7	0.76	1.2	50.13	25.5	-49.8	45.0	-0.29	.52	-1.0	1.4
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	5	0.38	0.4	43.12	15.3	-44.1	47.0	-0.21	.56	-0.9	1.7
251 - 350	1	0.17	0.0	35.21	0.0	-27.1	0.0	-0.13	0.00	-0.9	0.0
MORE THAN 350	1	3.28	0.0	100.12	0.0	-101.1	0.0	-0.84	0.00	-1.3	0.0
*INERTIA WEIGHT											
1800 - 2799	1	0.04	0.0	35.76	0.0	27.5	0.0	-0.56	0.00	-3.5	0.0
2800 - 3799	5	0.41	0.4	43.01	15.3	-55.0	29.2	-0.12	.52	-0.4	1.0
3800 - 4799	1	3.28	0.0	100.12	0.0	-101.1	0.0	-0.84	0.00	-1.3	0.0
4800 - 5799	0										
ALL VEHICLES	7	0.76	1.2	50.13	25.5	-49.8	45.0	-0.29	.52	-1.0	1.4

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	4	7.7	8.2	54.1	12.6	-15.5	10.7	5.1	21.7	-0.7	4.7
CHRYSLER	1	47.8	0.0	77.3	0.0	-20.4	0.0	-57.9	0.0	-10.2	0.0
FORD MOTOR CO.	2	7.0	8.0	67.1	7.4	-3.9	14.7	-55.1	43.0	-15.5	6.1
GENERAL MOTORS	0										
IMPORTS	0										
***MODEL YEAR**											
1968	1	17.9	0.0	43.6	0.0	-28.8	0.0	37.3	0.0	4.2	0.0
1969	1	12.6	0.0	61.8	0.0	-14.3	0.0	-85.4	0.0	-11.2	0.0
1970	4	3.6	5.0	61.3	12.8	-6.7	10.6	-10.4	9.9	-6.7	9.3
1971	1	47.8	0.0	77.3	0.0	-20.4	0.0	-57.9	0.0	-10.2	0.0
1972	0										
1973	0										
1974	0										
1975	0										
***VEHICLE TYPE**											
AUTOMOBILE	7	13.2	16.6	61.1	13.3	-12.9	11.6	-21.1	40.1	-6.3	8.3
TRUCK	0										
***VEHICLE OWNER**											
GSA	4	9.5	8.4	54.8	13.0	-17.5	9.0	-14.0	51.5	-2.1	6.9
PRIVATE OWNER	3	18.3	25.7	69.5	9.4	-6.7	13.5	-30.7	24.8	-11.9	7.2
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	0										
NO CNV/NO APMP	7	13.2	16.6	61.1	13.3	-12.9	11.6	-21.1	40.1	-6.3	8.3
***DISPLACEMENT**											
LESS THAN 151	0										
151 - 250	5	7.8	8.1	58.3	13.7	-12.7	13.3	-16.1	44.8	-5.6	9.9
251 - 350	1	5.7	0.0	59.0	0.0	-6.2	0.0	-9.4	0.0	-5.6	0.0
MORE THAN 350	1	47.8	0.0	77.3	0.0	-20.4	0.0	-57.9	0.0	-10.2	0.0
***INERTIA WEIGHT**											
1800 - 2799	1	1.3	0.0	72.3	0.0	6.6	0.0	-24.7	0.0	-19.8	0.0
2800 - 3799	5	8.7	7.4	55.6	11.4	-15.3	9.3	-13.0	44.6	-2.8	6.2
3800 - 4799	1	47.8	0.0	77.3	0.0	-20.4	0.0	-57.9	0.0	-10.2	0.0
4800 - 5799	0										
ALL VEHICLES	7	13.2	16.6	61.1	13.3	-12.9	11.6	-21.1	40.1	-6.3	8.3

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	4	3.78	0.8	33.87	18.1	434.4	19.4	2.01	.93	17.8	1.2
CHRYSLER	1	3.58	0.0	29.44	0.0	596.0	0.0	2.29	0.00	13.6	0.0
FORD MOTOR CO.	2	3.27	0.3	27.94	20.1	407.2	21.5	2.37	.65	19.4	2.3
GENERAL MOTORS	0										
IMPORTS	0										
*MODEL YEAR											
1968	1	4.74	0.0	58.14	0.0	433.0	0.0	1.01	0.00	16.5	0.0
1969	1	3.46	0.0	42.18	0.0	422.4	0.0	1.91	0.00	17.8	0.0
1970	4	3.37	0.5	22.76	10.1	424.1	28.9	2.47	.68	18.9	1.5
1971	1	3.58	0.0	29.44	0.0	596.0	0.0	2.29	0.00	13.6	0.0
1972	0										
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	7	3.61	0.6	31.54	15.5	449.7	67.8	2.16	.73	17.7	2.3
TRUCK	0										
*VEHICLE OWNER											
GSA	4	3.94	0.6	38.30	17.2	424.5	6.2	2.11	.87	17.9	1.1
PRIVATE OWNER	3	3.17	0.4	22.53	8.0	483.4	103.6	2.21	.66	17.3	3.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	0										
NO CNV/NO APMP	7	3.61	0.6	31.54	15.5	449.7	67.8	2.16	.73	17.7	2.3
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	5	3.77	0.6	33.38	18.5	418.0	15.5	2.26	.82	18.5	1.7
251 - 350	1	2.83	0.0	24.46	0.0	462.1	0.0	1.51	0.00	17.4	0.0
MORE THAN 350	1	3.58	0.0	29.44	0.0	596.0	0.0	2.29	0.00	13.6	0.0
*INERTIA WEIGHT											
1800 - 2799	1	3.09	0.0	13.70	0.0	392.0	0.0	2.83	0.00	21.0	0.0
2800 - 3799	5	3.72	0.7	35.53	16.1	432.0	17.7	1.99	.80	17.8	1.0
3800 - 4799	1	3.58	0.0	29.44	0.0	596.0	0.0	2.29	0.00	13.6	0.0
4800 - 5799	0										
ALL VEHICLES	7	3.61	0.6	31.54	15.5	449.7	67.8	2.16	.73	17.7	2.3

AUTOMOTIVE TESTING LABORATORIES, INC.
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EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF VEH.	HC MEAN	HC S.D.	CO MEAN	CO S.D.	CO2 MEAN	CO2 S.D.	NOX MEAN	NOX S.D.	MPG MEAN	MPG S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	4	-0.38	0.2	8.61	12.7	-6.9	32.9	0.52	.47	-0.2	1.3
CHRYSLER	1	0.17	0.0	26.06	0.0	-10.9	0.0	0.57	0.00	-0.6	0.0
FORD MOTOR CO.	2	0.19	0.5	25.44	33.7	-2.4	4.9	0.40	1.39	-1.1	1.9
GENERAL MOTORS	0										
IMPORTS	0										
*MODEL YEAR											
1968	1	-0.69	0.0	6.54	0.0	-51.9	0.0	0.79	0.00	1.4	0.0
1969	1	0.52	0.0	49.27	0.0	1.0	0.0	-0.58	0.00	-2.4	0.0
1970	4	-0.24	0.1	7.38	13.2	4.6	15.1	0.67	.64	-0.5	0.8
1971	1	0.17	0.0	26.06	0.0	-10.9	0.0	0.57	0.00	-0.6	0.0
1972	0										
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	7	-0.14	0.4	15.91	18.8	-6.2	23.5	0.50	.66	-0.5	1.2
TRUCK	0										
*VEHICLE OWNER											
GSA	4	-0.20	0.5	18.11	24.3	-12.5	27.5	0.41	.68	-0.5	1.7
PRIVATE OWNER	3	-0.06	0.2	12.98	12.3	2.2	18.5	0.61	.76	-0.6	0.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	0										
NO CNV/NO APMP	7	-0.14	0.4	15.91	18.8	-6.2	23.5	0.50	.66	-0.5	1.2
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	5	-0.19	0.4	14.81	22.3	-11.2	24.0	0.61	.73	-0.4	1.5
251 - 350	1	-0.21	0.0	11.27	0.0	23.3	0.0	-0.13	0.00	-1.3	0.0
MORE THAN 350	1	0.17	0.0	26.06	0.0	-10.9	0.0	0.57	0.00	-0.6	0.0
*INERTIA WEIGHT											
1800 - 2799	1	-0.13	0.0	1.61	0.0	-5.9	0.0	1.38	0.00	0.2	0.0
2800 - 3799	5	-0.20	0.4	16.75	21.3	-5.3	28.7	0.30	.64	-0.7	1.5
3800 - 4799	1	0.17	0.0	26.06	0.0	-10.9	0.0	0.57	0.00	-0.6	0.0
4800 - 5799	0										
ALL VEHICLES	7	-0.14	0.4	15.91	18.8	-6.2	23.5	0.50	.66	-0.5	1.2

AUTOMOTIVE TESTING LABORATORIES, INC.
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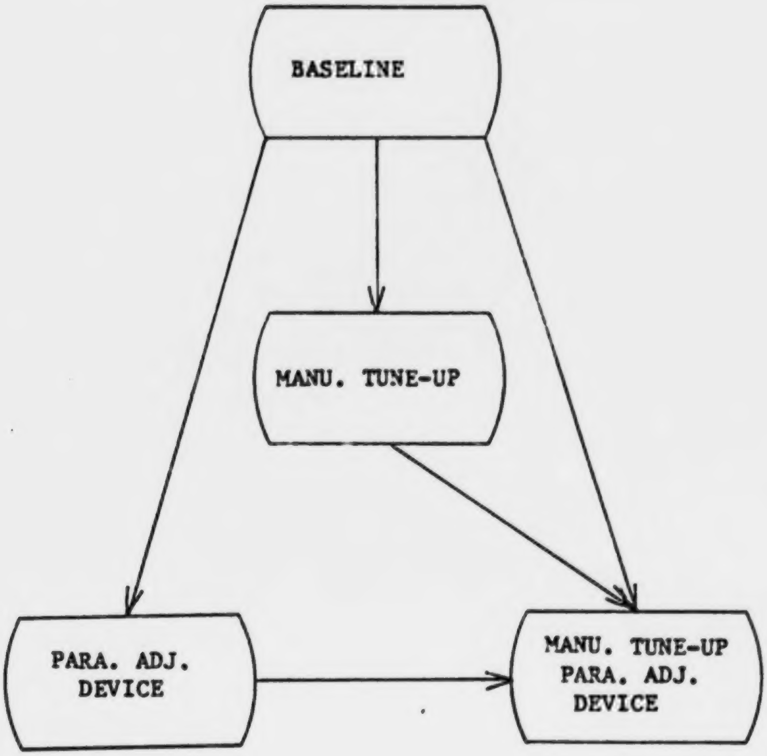
PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	4	-10.9	4.3	19.1	35.1	-2.2	8.2	19.0	22.5	-1.3	7.2
CHRYSLER	1	4.5	0.0	47.0	0.0	-1.9	0.0	19.9	0.0	-4.7	0.0
FORD MOTOR CO.	2	4.3	12.3	32.2	30.7	-0.6	1.2	-5.4	54.0	-7.6	12.0
GENERAL MOTORS	0										
IMPORTS	0										
*MODEL YEAR											
1968	1	-17.0	0.0	10.1	0.0	-13.6	0.0	43.9	0.0	8.1	0.0
1969	1	13.1	0.0	53.9	0.0	0.2	0.0	-43.6	0.0	-16.0	0.0
1970	4	-7.7	2.5	19.2	35.0	0.9	3.3	16.2	18.7	-3.1	4.4
1971	1	4.5	0.0	47.0	0.0	-1.9	0.0	19.9	0.0	-4.7	0.0
1972	0										
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	7	-4.3	10.1	26.8	29.8	-1.7	5.8	12.2	29.7	-3.6	7.7
TRUCK	0										
*VEHICLE OWNER											
GSA	4	-5.6	13.0	24.7	39.2	-3.3	7.1	10.5	38.0	-3.3	10.2
PRIVATE OWNER	3	-2.6	6.5	29.7	18.3	0.5	3.8	14.4	21.6	-3.9	4.5
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	0										
NO CNV/NO APMP	7	-4.3	10.1	26.8	29.8	-1.7	5.8	12.2	29.7	-3.6	7.7
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	5	-5.4	11.3	21.9	34.6	-3.0	6.2	14.9	34.4	-2.5	9.0
251 - 350	1	-8.0	0.0	31.5	0.0	4.8	0.0	-9.4	0.0	-7.9	0.0
MORE THAN 350	1	4.5	0.0	47.0	0.0	-1.9	0.0	19.9	0.0	-4.7	0.0
*INERTIA WEIGHT											
1800 - 2799	1	-4.4	0.0	10.5	0.0	-1.5	0.0	32.8	0.0	0.9	0.0
2800 - 3799	5	-6.1	11.3	26.1	34.1	-1.7	7.2	6.5	34.1	-4.3	9.1
3800 - 4799	1	4.5	0.0	47.0	0.0	-1.9	0.0	19.9	0.0	-4.7	0.0
4800 - 5799	0										
ALL VEHICLES	7	-4.3	10.1	26.8	29.8	-1.7	5.8	12.2	29.7	-3.6	7.7

1968-1972 VEHICLES

DATA SET 2
11 VEHICLES


BASELINE
MANU. TUNE-UP
PARA. ADJ. DEVICE
MANU. TUNE-UP PARA. ADJ. DEVICE

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	6.86	0.0	117.90	0.0	549.0	0.0	1.58	0.00	11.7	0.0
CHRYSLER	2	5.39	1.2	110.40	23.5	528.9	17.3	2.63	.28	12.4	1.0
FORD MOTOR CO.	3	7.53	3.6	76.93	23.5	567.0	106.1	3.97	.33	12.5	1.1
GENERAL MOTORS	5	6.77	3.1	95.71	45.5	412.2	57.6	2.43	.43	15.6	2.9
IMPORTS	0										
*MODEL YEAR											
1968	1	6.59	0.0	156.13	0.0	472.6	0.0	2.22	0.00	12.0	0.0
1969	3	7.83	3.4	101.48	20.2	473.0	62.4	3.00	1.18	13.5	0.5
1970	4	7.76	2.3	92.18	21.0	465.3	92.9	2.61	1.00	14.3	2.7
1971	2	5.10	1.6	88.61	54.3	615.2	104.9	3.31	.69	11.5	0.2
1972	1	2.80	0.0	41.48	0.0	385.2	0.0	2.65	0.00	19.3	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	6.74	2.7	95.28	34.5	488.1	95.2	2.81	.86	13.8	2.6
TRUCK	0										
*VEHICLE OWNER											
GSA	1	3.93	0.0	50.19	0.0	689.4	0.0	3.80	0.00	11.4	0.0
PRIVATE OWNER	10	7.02	2.6	99.78	32.8	467.9	71.5	2.71	.84	14.1	2.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	6.81	3.6	80.60	35.2	397.1	53.8	2.49	.48	16.5	2.4
NO CNV/NO APMP	7	6.69	2.3	103.66	33.8	540.0	70.6	3.00	1.00	12.3	0.8
*DISPLACEMENT											
LESS THAN 151	1	2.80	0.0	41.48	0.0	385.2	0.0	2.65	0.00	19.3	0.0
151 - 250	1	7.38	0.0	89.75	0.0	335.6	0.0	2.01	0.00	17.7	0.0
251 - 350	6	7.86	2.8	97.24	21.2	490.8	51.3	2.90	1.03	13.4	1.1
MORE THAN 350	3	5.59	1.4	111.12	54.7	567.7	110.8	2.95	.80	11.7	0.3
*INERTIA WEIGHT											
1800 - 2799	1	2.80	0.0	41.48	0.0	385.2	0.0	2.65	0.00	19.3	0.0
2800 - 3799	5	8.48	2.6	98.63	23.2	452.6	85.4	2.53	.88	14.3	2.3
3800 - 4799	5	5.78	1.5	102.68	40.5	544.1	84.9	3.13	.91	12.3	0.9
4800 - 5799	0										
ALL VEHICLES	11	6.74	2.7	95.28	34.5	488.1	95.2	2.81	.86	13.8	2.6

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	6.50	0.0	122.82	0.0	529.2	0.0	1.59	0.00	11.9	0.0
CHRYSLER	2	5.14	0.1	75.71	5.0	532.2	73.3	3.44	.36	13.4	1.6
FORD MOTOR CO.	3	5.34	1.3	48.94	21.9	594.9	98.7	4.27	.70	13.1	1.8
GENERAL MOTORS	5	3.95	1.7	48.53	18.4	497.2	137.3	2.84	1.21	15.9	3.5
IMPORTS	0										
*MODEL YEAR											
1968	1	4.27	0.0	62.34	0.0	732.5	0.0	4.87	0.00	10.5	0.0
1969	3	6.17	0.8	72.31	1.6	489.5	35.6	3.82	1.11	14.3	0.8
1970	4	4.69	1.4	55.68	45.0	475.2	80.6	2.61	1.18	15.9	3.5
1971	2	4.68	0.5	64.08	21.4	646.2	87.9	3.39	.29	11.7	0.8
1972	1	1.63	0.0	33.55	0.0	469.9	0.0	1.90	0.00	16.8	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	4.78	1.5	60.33	27.9	533.1	108.7	3.23	1.17	14.3	2.9
TRUCK	0										
*VEHICLE OWNER											
GSA	1	4.29	0.0	48.94	0.0	708.4	0.0	3.60	0.00	11.1	0.0
PRIVATE OWNER	10	4.82	1.6	61.47	29.2	515.6	96.9	3.19	1.23	14.6	2.8
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.87	2.0	45.07	19.3	438.3	45.4	2.33	.50	17.2	2.2
NO CNV/NO APMP	7	5.30	1.0	69.06	29.5	587.3	96.2	3.74	1.16	12.6	1.6
*DISPLACEMENT											
LESS THAN 151	1	1.63	0.0	33.55	0.0	469.9	0.0	1.90	0.00	16.8	0.0
151 - 250	1	3.33	0.0	37.21	0.0	371.0	0.0	1.90	0.00	20.2	0.0
251 - 350	6	5.66	1.1	67.07	34.0	499.7	40.4	3.34	1.21	14.4	1.7
MORE THAN 350	3	4.54	0.5	63.50	15.2	675.0	79.6	3.89	.88	11.3	0.9
*INERTIA WEIGHT											
1800 - 2799	1	1.63	0.0	33.55	0.0	469.9	0.0	1.90	0.00	16.8	0.0
2800 - 3799	5	5.04	1.4	59.32	39.8	472.0	70.2	2.65	1.02	15.7	3.1
3800 - 4799	5	5.14	1.1	66.70	11.6	606.8	110.3	4.07	.81	12.4	1.6
4800 - 5799	0										
ALL VEHICLES	11	4.78	1.5	60.33	27.9	533.1	108.7	3.23	1.17	14.3	2.9

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	7.05	0.0	64.30	0.0	489.9	0.0	2.03	0.00	14.5	0.0
CHRYSLER	2	4.85	0.1	57.01	3.9	558.8	57.4	2.65	.30	13.4	1.0
FORD MOTOR CO.	3	7.09	2.5	39.46	12.0	578.2	126.9	3.57	.47	13.7	2.3
GENERAL MOTORS	5	6.29	1.9	49.89	22.6	464.8	75.9	2.41	1.03	16.0	2.2
IMPORTS	0										
*MODEL YEAR											
1968	1	4.19	0.0	70.64	0.0	587.1	0.0	1.82	0.00	12.5	0.0
1969	3	6.23	1.3	57.33	6.3	488.5	35.9	3.43	.60	14.9	0.7
1970	4	8.13	1.2	41.21	24.9	470.8	48.4	2.24	1.03	15.9	1.3
1971	2	4.86	0.0	48.01	8.9	661.9	88.5	2.77	.47	11.8	1.2
1972	1	4.36	0.0	42.65	0.0	406.3	0.0	3.45	0.00	18.2	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	6.32	1.8	49.65	17.3	515.1	93.6	2.74	.89	14.8	2.2
TRUCK	0										
*VEHICLE OWNER											
GSA	1	4.83	0.0	41.75	0.0	724.5	0.0	3.11	0.00	11.0	0.0
PRIVATE OWNER	10	6.46	1.9	50.44	18.0	494.2	66.1	2.70	.93	15.1	1.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	6.81	1.7	44.70	22.4	434.2	38.1	2.56	1.13	16.9	1.1
NO CNV/NO APMP	7	6.03	2.0	52.48	14.8	561.3	83.8	2.84	.80	13.5	1.5
*DISPLACEMENT											
LESS THAN 151	1	4.36	0.0	42.65	0.0	406.3	0.0	3.45	0.00	18.2	0.0
151 - 250	1	7.53	0.0	60.22	0.0	400.6	0.0	1.04	0.00	17.1	0.0
251 - 350	6	7.28	1.7	46.10	21.0	491.4	24.9	3.04	.76	15.2	0.9
MORE THAN 350	3	4.64	0.4	55.56	14.5	637.0	76.0	2.46	.65	12.1	0.9
*INERTIA WEIGHT											
1500 - 2799	1	4.36	0.0	42.65	0.0	406.3	0.0	3.45	0.00	18.2	0.0
2800 - 3799	5	7.96	1.1	45.39	23.5	466.4	43.1	2.47	1.03	15.8	1.1
3800 - 4799	5	5.07	0.9	55.31	10.8	585.6	88.8	2.86	.83	13.0	1.5
4800 - 5799	0										
ALL VEHICLES	11	6.32	1.8	49.65	17.3	515.1	93.6	2.74	.89	14.8	2.2

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE-MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	6.50	0.0	122.82	0.0	529.2	0.0	1.59	0.00	11.9	0.0
CHRYSLER	2	5.14	0.1	75.71	5.0	532.2	73.3	3.44	.36	13.4	1.6
FORD MOTOR CO.	3	5.34	1.3	48.94	21.9	594.9	98.7	4.27	.70	13.1	1.8
GENERAL MOTORS	5	3.95	1.7	48.53	18.4	497.2	137.3	2.84	1.21	15.9	3.5
IMPORTS	0										
*MODEL YEAR											
1968	1	4.27	0.0	62.34	0.0	732.5	0.0	4.87	0.00	10.5	0.0
1969	3	6.17	0.8	72.31	1.6	489.5	35.6	3.82	1.11	14.3	0.8
1970	4	4.69	1.4	55.68	45.0	475.2	80.6	2.61	1.18	15.9	3.5
1971	2	4.68	0.5	64.08	21.4	646.2	87.9	3.39	.29	11.7	0.8
1972	1	1.63	0.0	33.55	0.0	469.9	0.0	1.90	0.00	16.8	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	4.78	1.5	60.33	27.9	533.1	108.7	3.23	1.17	14.3	2.9
TRUCK	0										
*VEHICLE OWNER											
GSA	1	4.29	0.0	48.94	0.0	708.4	0.0	3.60	0.00	11.1	0.0
PRIVATE OWNER	10	4.82	1.6	61.47	29.2	515.6	96.9	3.19	1.23	14.6	2.8
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.87	2.0	45.07	19.3	438.3	45.4	2.33	.50	17.2	2.2
NO CNV/NO APMP	7	5.30	1.0	69.06	29.5	587.3	96.2	3.74	1.16	12.6	1.6
*DISPLACEMENT											
LESS THAN 151	1	1.63	0.0	33.55	0.0	469.9	0.0	1.90	0.00	16.8	0.0
151 - 250	1	3.33	0.0	37.21	0.0	371.0	0.0	1.90	0.00	20.2	0.0
251 - 350	6	5.66	1.1	67.07	34.0	499.7	40.4	3.34	1.21	14.4	1.7
MORE THAN 350	3	4.54	0.5	63.50	15.2	675.0	79.6	3.89	.88	11.3	0.9
*INERTIA WEIGHT											
1800 - 2799	1	1.63	0.0	33.55	0.0	469.9	0.0	1.90	0.00	16.8	0.0
2800 - 3799	5	5.04	1.4	59.32	39.8	472.0	70.2	2.65	1.02	15.7	3.1
3800 - 4799	5	5.14	1.1	66.70	11.6	606.8	110.3	4.07	.81	12.4	1.6
4800 - 5799	0										
ALL VEHICLES	11	4.78	1.5	60.33	27.9	533.1	108.7	3.23	1.17	14.3	2.9

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE-MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	0.36	0.0	-4.92	0.0	19.8	0.0	-0.01	0.00	-0.2	0.0
CHRYSLER	2	0.25	1.3	34.69	18.6	-3.4	56.0	-0.81	.64	-1.0	0.6
FORD MOTOR CO.	3	2.20	3.5	28.00	34.8	-27.9	8.9	-0.30	.44	-0.5	1.2
GENERAL MOTORS	5	2.82	1.6	47.18	31.7	-85.0	104.1	-0.40	1.34	-0.2	2.2
IMPORTS	0										
*MODEL YEAR											
1968	1	2.32	0.0	93.79	0.0	-259.9	0.0	-2.65	0.00	1.5	0.0
1969	3	1.66	2.9	29.18	18.7	-16.5	48.0	-0.82	.39	-0.8	0.8
1970	4	3.06	2.6	36.51	31.4	-9.8	30.4	-0.00	.33	-1.6	1.0
1971	2	0.42	1.1	24.53	32.9	-31.0	17.0	-0.08	.40	-0.2	0.6
1972	1	1.17	0.0	7.93	0.0	-84.7	0.0	0.75	0.00	2.5	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	1.96	2.2	34.94	30.4	-45.1	79.5	-0.41	.92	-0.5	1.5
TRUCK	0										
*VEHICLE OWNER											
GSA	1	-0.36	0.0	1.25	0.0	-19.0	0.0	0.20	0.00	0.3	0.0
PRIVATE OWNER	10	2.19	2.2	38.31	29.8	-47.7	83.3	-0.47	.95	-0.5	1.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	2.95	1.8	35.53	20.8	-41.2	41.3	0.16	.55	-0.7	2.2
NO CNV/NO APMP	7	1.40	2.4	34.61	36.4	-47.2	98.3	-0.74	.96	-0.3	1.1
*DISPLACEMENT											
LESS THAN 151	1	1.17	0.0	7.93	0.0	-84.7	0.0	0.75	0.00	2.5	0.0
151 - 250	1	4.05	0.0	52.54	0.0	-35.4	0.0	0.11	0.00	-2.4	0.0
251 - 350	6	2.20	2.8	30.17	25.7	-8.9	37.0	-0.43	.55	-1.1	0.8
MORE THAN 350	3	1.05	1.3	47.62	46.3	-107.3	132.7	-0.94	1.51	0.4	1.0
*INERTIA WEIGHT											
1800 - 2799	1	1.17	0.0	7.93	0.0	-84.7	0.0	0.75	0.00	2.5	0.0
2800 - 3799	5	3.44	2.4	39.31	27.9	-19.4	33.9	-0.12	.38	-1.5	0.9
3800 - 4799	5	0.64	1.2	35.97	36.5	-62.7	114.2	-0.94	1.09	-0.1	1.1
4800 - 5799	0										
ALL VEHICLES	11	1.96	2.2	34.94	30.4	-45.1	79.5	-0.41	.92	-0.5	1.5

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE-MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	5.2	0.0	-4.2	0.0	3.6	0.0	-0.6	0.0	-1.8	0.0
CHRYSLER	2	1.9	24.5	30.3	10.3	-0.5	10.6	-32.5	28.0	-8.1	4.4
FORD MOTOR CO.	3	18.8	33.6	30.6	36.1	-5.2	2.2	-7.1	10.8	-4.1	9.3
GENERAL MOTORS	5	40.8	9.9	45.0	16.6	-19.8	21.6	-20.0	58.8	-1.5	13.2
IMPORTS	0										
*MODEL YEAR											
1968	1	35.2	0.0	60.1	0.0	-55.0	0.0	-119.4	0.0	12.4	0.0
1969	3	12.5	29.6	27.2	11.9	-4.3	10.8	-30.8	19.4	-5.7	5.7
1970	4	36.2	24.3	43.1	33.1	-2.8	7.1	0.9	9.7	-10.7	6.0
1971	2	5.0	20.0	20.1	24.9	-5.4	3.7	-3.7	12.7	-1.3	5.1
1972	1	41.8	0.0	19.1	0.0	-22.0	0.0	28.3	0.0	12.9	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	24.5	24.6	33.9	24.4	-10.2	17.1	-17.0	39.9	-3.4	9.8
TRUCK	0										
*VEHICLE OWNER											
GSA	1	-9.2	0.0	2.5	0.0	-2.8	0.0	5.3	0.0	2.3	0.0
PRIVATE OWNER	10	27.8	23.1	37.1	23.2	-10.9	17.8	-19.2	41.3	-4.0	10.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	42.1	10.8	41.2	16.5	-11.0	10.4	4.8	22.3	-4.9	12.4
NO CNV/NO APMP	7	14.4	25.0	29.8	28.3	-9.7	20.7	-29.5	43.7	-2.5	9.0
*DISPLACEMENT											
LESS THAN 151	1	41.8	0.0	19.1	0.0	-22.0	0.0	28.3	0.0	12.9	0.0
151 - 250	1	54.9	0.0	58.5	0.0	-10.5	0.0	5.5	0.0	-13.6	0.0
251 - 350	6	21.2	26.5	32.5	26.2	-2.3	8.1	-15.7	21.8	-7.7	6.1
MORE THAN 350	3	15.1	22.5	33.4	29.0	-21.9	28.8	-42.3	67.4	3.2	8.7
*INERTIA WEIGHT											
1800 - 2799	1	41.8	0.0	19.1	0.0	-22.0	0.0	28.3	0.0	12.9	0.0
2800 - 3799	5	37.6	21.3	42.6	28.7	-5.2	8.0	-4.3	14.5	-9.8	5.6
3800 - 4799	5	7.9	20.7	28.2	21.8	-12.9	24.2	-38.8	49.7	-0.2	8.8
4800 - 5799	0										
ALL VEHICLES	11	24.5	24.6	33.9	24.4	-10.2	17.1	-17.0	39.9	-3.4	9.8

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE--PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	7.05	0.0	64.30	0.0	489.9	0.0	2.03	0.00	14.5	0.0
CHRYSLER	2	4.85	0.1	57.01	3.9	558.8	57.4	2.65	.30	13.4	1.0
FORD MOTOR CO.	3	7.09	2.5	39.46	12.0	578.2	126.9	3.57	.47	13.7	2.3
GENERAL MOTORS	5	6.29	1.9	49.89	22.6	464.8	75.9	2.41	1.03	16.0	2.2
IMPORTS	0										
*MODEL YEAR											
1968	1	4.19	0.0	70.64	0.0	587.1	0.0	1.82	0.00	12.5	0.0
1969	3	6.23	1.3	57.33	6.3	488.5	35.9	3.43	.60	14.9	0.7
1970	4	8.13	1.2	41.21	24.9	470.8	48.4	2.24	1.03	15.9	1.3
1971	2	4.86	0.0	48.01	8.9	661.9	88.5	2.77	.47	11.8	1.2
1972	1	4.36	0.0	42.65	0.0	406.3	0.0	3.45	0.00	18.2	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	6.32	1.8	49.65	17.3	515.1	93.6	2.74	.89	14.8	2.2
TRUCK	0										
*VEHICLE OWNER											
GSA	1	4.83	0.0	41.75	0.0	724.5	0.0	3.11	0.00	11.0	0.0
PRIVATE OWNER	10	6.46	1.9	50.44	18.0	494.2	66.1	2.70	.93	15.1	1.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	6.81	1.7	44.70	22.4	434.2	38.1	2.56	1.13	16.9	1.1
NO CNV/NO APMP	7	6.03	2.0	52.48	14.8	561.3	83.8	2.84	.80	13.5	1.5
*DISPLACEMENT											
LESS THAN 151	1	4.36	0.0	42.65	0.0	406.3	0.0	3.45	0.00	18.2	0.0
151 - 250	1	7.53	0.0	60.22	0.0	400.6	0.0	1.04	0.00	17.1	0.0
251 - 350	6	7.28	1.7	46.10	21.0	491.4	24.9	3.04	.76	15.2	0.9
MORE THAN 350	3	4.64	0.4	55.56	14.5	637.0	76.0	2.46	.65	12.1	0.9
*INERTIA WEIGHT											
1800 - 2799	1	4.36	0.0	42.65	0.0	406.3	0.0	3.45	0.00	18.2	0.0
2800 - 3799	5	7.96	1.1	45.39	23.5	466.4	43.1	2.47	1.03	15.8	1.1
3800 - 4799	5	5.07	0.9	55.31	10.8	585.6	88.8	2.86	.83	13.0	1.5
4800 - 5799	0										
ALL VEHICLES	11	6.32	1.8	49.65	17.3	515.1	93.6	2.74	.89	14.8	2.2

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE--PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	-0.19	0.0	53.60	0.0	59.1	0.0	-0.45	0.00	-2.7	0.0
CHRYSLER	2	0.54	1.2	53.39	27.4	-29.9	40.1	-0.02	.58	-1.0	0.0
FORD MOTOR CO.	3	0.44	1.2	37.48	29.7	-11.2	20.8	0.41	.25	-1.2	1.4
GENERAL MOTORS	5	0.48	2.7	45.81	33.1	-52.6	40.0	0.02	.96	-0.4	1.3
IMPORTS	0										
*MODEL YEAR											
1968	1	2.40	0.0	85.49	0.0	-114.5	0.0	0.40	0.00	-0.5	0.0
1969	3	1.60	2.3	44.15	15.8	-15.6	27.4	-0.44	.74	-1.3	0.3
1970	4	-0.37	1.5	50.97	15.9	-5.4	51.1	0.37	.63	-1.6	1.5
1971	2	0.24	1.6	40.60	45.5	-46.7	16.4	0.54	.21	-0.3	1.0
1972	1	-1.56	0.0	-1.17	0.0	-21.1	0.0	-0.80	0.00	1.1	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	0.42	1.9	45.63	27.0	-27.0	45.1	0.08	.69	-0.9	1.2
TRUCK	0										
*VEHICLE OWNER											
GSA	1	-0.90	0.0	8.44	0.0	-35.1	0.0	0.69	0.00	0.3	0.0
PRIVATE OWNER	10	0.55	1.9	49.34	25.3	-26.2	47.4	0.02	.69	-1.1	1.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	0.00	2.9	35.89	28.3	-37.2	23.1	-0.07	1.08	-0.4	1.5
NO CNV/NO APMP	7	0.66	1.2	51.19	26.7	-21.3	54.9	0.16	.44	-1.2	1.1
*DISPLACEMENT											
LESS THAN 151	1	-1.56	0.0	-1.17	0.0	-21.1	0.0	-0.80	0.00	1.1	0.0
151 - 250	1	-0.15	0.0	29.53	0.0	-65.0	0.0	0.97	0.00	0.6	0.0
251 - 350	6	0.58	2.2	51.14	13.7	-0.6	34.5	-0.13	.68	-1.8	0.6
MORE THAN 350	3	0.96	1.7	55.56	41.3	-69.3	40.8	0.49	.17	-0.4	0.7
*INERTIA WEIGHT											
1800 - 2799	1	-1.56	0.0	-1.17	0.0	-21.1	0.0	-0.80	0.00	1.1	0.0
2800 - 3799	5	0.53	2.4	53.25	14.7	-13.8	48.0	0.06	.88	-1.6	1.3
3800 - 4799	5	0.71	1.3	47.36	31.3	-41.5	47.8	0.27	.42	-0.7	0.7
4800 - 5799	0										
ALL VEHICLES	11	0.42	1.9	45.63	27.0	-27.0	45.1	0.08	.69	-0.9	1.2

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE--PARA ADJ/DEVICE)

	# OF VEH.	HC MEAN	HC S.D.	CO MEAN	CO S.D.	CO2 MEAN	CO2 S.D.	NOX MEAN	NOX S.D.	MPG MEAN	MPG S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	-2.8	0.0	45.5	0.0	10.8	0.0	-28.5	0.0	-23.3	0.0
CHRYSLER	2	7.9	19.8	46.8	14.8	-5.5	7.4	-2.0	22.3	-8.4	0.3
FORD MOTOR CO.	3	0.4	20.2	43.5	27.6	-1.6	3.0	10.4	6.7	-8.7	11.1
GENERAL MOTORS	5	-5.4	42.9	42.8	30.4	-12.8	8.9	1.2	41.7	-3.4	8.0
IMPORTS	0										
*MODEL YEAR											
1968	1	36.4	0.0	54.8	0.0	-24.2	0.0	18.0	0.0	-3.9	0.0
1969	3	14.2	21.2	42.7	6.9	-3.9	6.8	-21.4	30.3	-9.9	1.6
1970	4	-8.9	23.1	57.4	21.8	-3.0	12.5	12.3	32.2	-12.5	11.8
1971	2	-0.5	31.7	37.0	28.6	-7.9	4.0	16.0	3.1	-2.8	8.3
1972	1	-55.7	0.0	-2.8	0.0	-5.5	0.0	-30.2	0.0	5.7	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	-1.2	29.7	44.0	23.4	-6.3	9.8	0.4	29.5	-7.6	9.2
TRUCK	0										
*VEHICLE OWNER											
GSA	1	-22.9	0.0	16.8	0.0	-5.1	0.0	18.2	0.0	3.1	0.0
PRIVATE OWNER	10	1.0	30.4	46.7	22.8	-6.4	10.3	-1.3	30.4	-8.6	8.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	-15.9	41.5	39.9	34.3	-10.0	7.2	-3.0	46.9	-3.3	9.2
NO CNV/NO APMP	7	7.2	19.6	46.3	17.5	-4.2	11.0	2.4	18.3	-10.0	8.8
*DISPLACEMENT											
LESS THAN 151	1	-55.7	0.0	-2.8	0.0	-5.5	0.0	-30.2	0.0	5.7	0.0
151 - 250	1	-2.0	0.0	32.9	0.0	-19.4	0.0	48.3	0.0	3.7	0.0
251 - 350	6	1.5	26.1	54.1	17.4	-0.7	7.2	-10.5	28.1	-13.9	5.9
MORE THAN 350	3	11.8	30.9	42.9	22.7	-13.4	9.8	16.7	2.5	-3.2	5.9
*INERTIA WEIGHT											
1800 - 2799	1	-55.7	0.0	-2.8	0.0	-5.5	0.0	-30.2	0.0	5.7	0.0
2800 - 3799	5	0.1	28.4	55.9	19.2	-4.7	11.5	-0.8	40.5	-12.2	10.3
3800 - 4799	5	8.4	23.3	41.4	16.3	-8.0	10.1	7.8	15.0	-5.6	5.4
4800 - 5799	0										
ALL VEHICLES	11	-1.2	29.7	44.0	23.4	-6.3	9.8	0.4	29.5	-7.6	9.2

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	5.06	0.0	75.18	0.0	562.4	0.0	1.92	0.00	12.7	0.0
CHRYSLER	2	3.99	1.8	30.71	30.1	520.0	23.8	2.25	1.26	15.3	0.8
FORD MOTOR CO.	3	5.33	1.3	38.22	24.7	560.6	118.5	3.40	.49	14.3	3.1
GENERAL MOTORS	5	6.05	2.4	36.60	13.4	449.6	104.1	2.61	1.12	17.4	3.3
IMPORTS	0										
*MODEL YEAR											
1968	1	5.77	0.0	43.61	0.0	599.3	0.0	3.69	0.00	12.9	0.0
1969	3	6.14	0.8	54.98	9.6	508.1	24.8	3.46	.34	14.5	1.0
1970	4	6.33	2.3	38.86	27.8	449.3	96.8	1.95	.78	17.3	3.3
1971	2	3.49	1.1	20.13	15.2	613.3	108.2	2.44	1.53	13.8	2.9
1972	1	2.78	0.0	29.99	0.0	384.3	0.0	2.94	0.00	20.2	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	5.39	1.9	39.48	20.8	502.9	100.2	2.70	.98	15.8	3.0
TRUCK	0										
*VEHICLE OWNER											
GSA	1	4.29	0.0	30.88	0.0	689.8	0.0	3.53	0.00	11.8	0.0
PRIVATE OWNER	10	5.50	2.0	40.34	21.7	484.2	82.9	2.62	.99	16.2	2.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	6.12	2.8	34.85	14.7	412.1	71.5	2.34	1.09	18.5	2.5
NO CNV/NO APMP	7	4.97	1.3	42.12	24.2	554.8	74.4	2.90	.93	14.2	2.1
*DISPLACEMENT											
LESS THAN 151	1	2.78	0.0	29.99	0.0	384.3	0.0	2.94	0.00	20.2	0.0
151 - 250	1	9.67	0.0	46.09	0.0	325.8	0.0	0.96	0.00	20.7	0.0
251 - 350	6	5.68	0.8	45.72	24.3	499.3	43.5	2.87	.75	15.3	2.1
MORE THAN 350	3	4.25	1.5	27.96	17.3	608.6	76.9	2.86	1.30	13.5	2.1
*INERTIA WEIGHT											
1800 - 2799	1	2.78	0.0	29.99	0.0	384.3	0.0	2.94	0.00	20.2	0.0
2800 - 3799	5	6.32	2.0	40.53	24.4	456.7	85.4	2.24	.95	16.9	3.0
3800 - 4799	5	4.98	1.6	40.33	21.4	572.8	74.1	3.11	1.01	13.8	1.6
4800 - 5799	0										
ALL VEHICLES	11	5.39	1.9	39.48	20.8	502.9	100.2	2.70	.98	15.8	3.0

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	1.80	0.0	42.72	0.0	-13.4	0.0	-0.34	0.00	-1.0	0.0
CHRYSLER	2	1.40	3.1	79.69	53.7	8.9	6.4	0.38	1.54	-2.9	1.8
FORD MOTOR CO.	3	2.21	3.6	38.71	32.6	6.4	44.4	0.57	.32	-1.8	2.7
GENERAL MOTORS	5	0.72	2.7	59.10	37.9	-37.4	64.3	-0.18	1.20	-1.8	1.0
IMPORTS	0										
***MODEL YEAR**											
1968	1	0.82	0.0	112.52	0.0	-126.7	0.0	-1.47	0.00	-0.9	0.0
1969	3	1.69	3.1	46.50	28.7	-35.2	49.1	-0.46	.91	-1.0	0.9
1970	4	1.42	3.6	53.32	15.7	16.0	28.0	0.66	.67	-2.9	1.6
1971	2	1.60	2.8	68.48	69.5	1.9	3.3	0.87	.85	-2.3	2.7
1972	1	0.02	0.0	11.49	0.0	0.9	0.0	-0.29	0.00	-0.8	0.0
1973	0										
1974	0										
1975	0										
***VEHICLE TYPE**											
AUTOMOBILE	11	1.35	2.6	55.80	36.1	-14.9	50.5	0.11	.99	-1.9	1.6
TRUCK	0										
***VEHICLE OWNER**											
GSA	1	-0.36	0.0	19.31	0.0	-0.4	0.0	0.27	0.00	-0.4	0.0
PRIVATE OWNER	10	1.52	2.7	59.44	35.8	-16.3	53.0	0.10	1.04	-2.1	1.6
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	0.69	3.1	45.75	27.0	-15.1	46.7	0.14	1.10	-2.0	1.1
NO CNV/NO APMP	7	1.72	2.5	61.54	41.2	-14.7	56.3	0.10	1.01	-1.9	1.9
***DISPLACEMENT**											
LESS THAN 151	1	0.02	0.0	11.49	0.0	0.9	0.0	-0.29	0.00	-0.8	0.0
151 - 250	1	-2.29	0.0	43.66	0.0	9.8	0.0	1.05	0.00	-2.9	0.0
251 - 350	6	2.18	2.9	51.52	22.0	-8.5	47.7	0.04	.93	-2.0	1.7
MORE THAN 350	3	1.34	2.0	83.16	55.4	-40.9	74.3	0.09	1.48	-1.8	2.0
***INERTIA WEIGHT**											
1800 - 2799	1	0.02	0.0	11.49	0.0	0.9	0.0	-0.29	0.00	-0.8	0.0
2800 - 3799	5	2.16	3.6	58.11	17.3	-4.1	51.1	0.29	1.02	-2.6	1.6
3800 - 4799	5	0.80	1.7	62.35	49.0	-28.7	57.7	0.02	1.14	-1.4	1.6
4800 - 5799	0										
ALL VEHICLES	11	1.35	2.6	55.80	36.1	-14.9	50.5	0.11	.99	-1.9	1.6

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	26.2	0.0	36.2	0.0	-2.4	0.0	-21.5	0.0	-8.5	0.0
CHRYSLER	2	20.0	52.1	68.6	34.0	1.7	1.3	11.4	57.4	-24.3	16.3
FORD MOTOR CO.	3	18.9	33.8	47.7	29.6	1.2	8.8	14.6	8.7	-14.2	21.3
GENERAL MOTORS	5	5.2	27.4	57.3	19.6	-8.4	14.4	-9.3	52.4	-11.3	6.1
IMPORTS	0										
*MODEL YEAR											
1968	1	12.4	0.0	72.1	0.0	-26.8	0.0	-66.2	0.0	-7.7	0.0
1969	3	12.5	31.0	43.5	19.2	-8.4	11.9	-24.0	34.1	-7.3	6.5
1970	4	12.6	37.4	60.4	21.4	3.5	5.3	22.1	31.3	-20.6	12.8
1971	2	23.9	46.7	65.5	38.3	0.4	0.6	29.5	31.7	-19.8	22.7
1972	1	0.7	0.0	27.7	0.0	0.2	0.0	-10.9	0.0	-4.3	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	13.5	29.5	54.8	23.1	-3.4	11.1	-0.2	40.3	-14.2	12.7
TRUCK	0										
*VEHICLE OWNER											
GSA	1	-9.2	0.0	38.5	0.0	-0.1	0.0	7.1	0.0	-3.8	0.0
PRIVATE OWNER	10	15.8	30.0	56.4	23.7	-3.7	11.6	-0.9	42.4	-15.2	12.8
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.3	31.3	53.6	20.5	-3.8	11.6	4.9	48.0	-12.2	6.7
NO CNV/NO APMP	7	19.4	29.1	55.5	26.1	-3.2	11.7	-3.1	39.0	-15.3	15.5
*DISPLACEMENT											
LESS THAN 151	1	0.7	0.0	27.7	0.0	0.2	0.0	-10.9	0.0	-4.3	0.0
151 - 250	1	-31.0	0.0	48.6	0.0	2.9	0.0	52.2	0.0	-16.6	0.0
251 - 350	6	19.8	27.9	53.9	22.7	-2.4	10.9	-6.0	34.7	-14.7	13.3
MORE THAN 350	3	20.1	33.7	67.7	27.3	-8.7	15.7	-2.4	59.6	-15.8	17.5
*INERTIA WEIGHT											
1800 - 2799	1	0.7	0.0	27.7	0.0	0.2	0.0	-10.9	0.0	-4.3	0.0
2800 - 3799	5	19.1	35.5	60.7	18.6	-1.4	11.9	6.6	43.9	-18.3	12.3
3800 - 4799	5	10.6	28.7	54.3	27.7	-6.1	12.1	-4.8	44.8	-12.0	14.1
4800 - 5799	0										
ALL VEHICLES	11	13.5	29.5	54.8	23.1	-3.4	11.1	-0.2	40.3	-14.2	12.7

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	5.06	0.0	75.18	0.0	562.4	0.0	1.92	0.00	12.7	0.0
CHRYSLER	2	3.99	1.8	30.71	30.1	520.0	23.8	2.25	1.26	15.3	0.8
FORD MOTOR CO.	3	5.33	1.3	38.22	24.7	560.6	118.5	3.40	.49	14.3	3.1
GENERAL MOTORS	5	6.05	2.4	36.60	13.4	449.6	104.1	2.61	1.12	17.4	3.3
IMPORTS	0										
*MODEL YEAR											
1968	1	5.77	0.0	43.61	0.0	599.3	0.0	3.69	0.00	12.9	0.0
1969	3	6.14	0.8	54.98	9.6	508.1	24.8	3.46	.34	14.5	1.0
1970	4	6.33	2.3	38.86	27.8	449.3	96.8	1.95	.78	17.3	3.3
1971	2	3.49	1.1	20.13	15.2	613.3	108.2	2.44	1.53	13.8	2.9
1972	1	2.78	0.0	29.99	0.0	384.3	0.0	2.94	0.00	20.2	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	5.39	1.9	39.48	20.8	502.9	100.2	2.70	.98	15.8	3.0
TRUCK	0										
*VEHICLE OWNER											
GSA	1	4.29	0.0	30.88	0.0	689.8	0.0	3.53	0.00	11.8	0.0
PRIVATE OWNER	10	5.50	2.0	40.34	21.7	484.2	82.9	2.62	.99	16.2	2.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	6.12	2.8	34.85	14.7	412.1	71.5	2.34	1.09	18.5	2.5
NO CNV/NO APMP	7	4.97	1.3	42.12	24.2	554.8	74.4	2.90	.93	14.2	2.1
*DISPLACEMENT											
LESS THAN 151	1	2.78	0.0	29.99	0.0	384.3	0.0	2.94	0.00	20.2	0.0
151 - 250	1	9.67	0.0	46.09	0.0	325.8	0.0	0.96	0.00	20.7	0.0
251 - 350	6	5.68	0.8	45.72	24.3	499.3	43.5	2.87	.75	15.3	2.1
MORE THAN 350	3	4.25	1.5	27.96	17.3	608.6	76.9	2.86	1.30	13.5	2.1
*INERTIA WEIGHT											
1800 - 2799	1	2.78	0.0	29.99	0.0	384.3	0.0	2.94	0.00	20.2	0.0
2800 - 3799	5	6.32	2.0	40.53	24.4	456.7	85.4	2.24	.95	16.9	3.0
3800 - 4799	5	4.98	1.6	40.33	21.4	572.8	74.1	3.11	1.01	13.8	1.6
4800 - 5799	0										
ALL VEHICLES	11	5.39	1.9	39.48	20.8	502.9	100.2	2.70	.98	15.8	3.0

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	1.44	0.0	47.64	0.0	-33.2	0.0	-0.33	0.00	-0.8	0.0
CHRYSLER	2	1.15	1.7	45.00	35.1	12.2	49.6	1.19	.90	-1.9	2.4
FORD MOTOR CO.	3	0.01	0.0	10.71	6.7	34.3	50.3	0.87	.70	-1.3	1.6
GENERAL MOTORS	5	-2.10	2.5	11.92	14.4	47.6	64.3	0.22	1.00	-1.5	1.3
IMPORTS	0										
*MODEL YEAR											
1968	1	-1.50	0.0	18.73	0.0	133.2	0.0	1.18	0.00	-2.4	0.0
1969	3	0.03	0.1	17.33	11.1	-18.6	11.0	0.36	.94	-0.2	0.2
1970	4	-1.64	3.4	16.81	23.7	25.9	53.8	0.67	.72	-1.3	1.2
1971	2	1.18	1.7	43.95	36.6	32.9	20.3	0.95	1.24	-2.1	2.1
1972	1	-1.15	0.0	3.56	0.0	85.6	0.0	-1.04	0.00	-3.3	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	-0.61	2.2	20.86	21.8	30.2	55.0	0.53	.91	-1.5	1.4
TRUCK	0										
*VEHICLE OWNER											
GSA	1	0.00	0.0	18.06	0.0	18.6	0.0	0.07	0.00	-0.7	0.0
PRIVATE OWNER	10	-0.68	2.4	21.13	22.9	31.4	57.8	0.57	.94	-1.5	1.4
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	-2.26	2.8	10.22	16.0	26.2	49.5	-0.02	.98	-1.3	1.4
NO CNV/NO APMP	7	0.32	1.2	26.93	23.3	32.5	61.6	0.84	.77	-1.5	1.5
*DISPLACEMENT											
LESS THAN 151	1	-1.15	0.0	3.56	0.0	85.6	0.0	-1.04	0.00	-3.3	0.0
151 - 250	1	-6.34	0.0	-8.88	0.0	45.2	0.0	0.94	0.00	-0.5	0.0
251 - 350	6	-0.02	1.0	21.35	15.1	0.4	46.0	0.47	.81	-0.9	1.1
MORE THAN 350	3	0.29	1.9	35.54	29.7	66.4	59.6	1.03	.89	-2.2	1.5
*INERTIA WEIGHT											
1800 - 2799	1	-1.15	0.0	3.56	0.0	85.6	0.0	-1.04	0.00	-3.3	0.0
2800 - 3799	5	-1.28	3.0	18.80	21.0	15.3	52.2	0.40	.86	-1.1	1.1
3800 - 4799	5	0.16	1.4	26.37	25.0	34.0	61.4	0.96	.67	-1.4	1.6
4800 - 5799	0										
ALL VEHICLES	11	-0.61	2.2	20.86	21.8	30.2	55.0	0.53	.91	-1.5	1.4

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	22.2	0.0	38.8	0.0	-6.3	0.0	-20.8	0.0	-6.6	0.0
CHRYSLER	2	22.7	33.8	58.0	42.6	1.7	9.1	36.3	29.9	-15.4	19.8
FORD MOTOR CO.	3	0.2	0.4	25.8	16.2	6.0	9.3	19.3	15.6	-9.2	10.6
GENERAL MOTORS	5	-67.0	73.7	21.5	29.9	8.6	10.9	4.1	42.3	-10.7	9.9
IMPORTS	0										
*MODEL YEAR											
1968	1	-35.1	0.0	30.0	0.0	18.2	0.0	24.2	0.0	-23.0	0.0
1969	3	0.4	1.9	23.8	15.0	-3.9	2.4	5.0	25.3	-1.5	1.2
1970	4	-52.3	95.8	25.7	34.3	5.7	10.5	21.6	30.0	-8.9	8.2
1971	2	23.3	33.0	62.5	36.2	5.4	3.9	29.7	39.2	-17.8	16.4
1972	1	-70.6	0.0	10.6	0.0	18.2	0.0	-54.7	0.0	-19.9	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	-24.2	63.5	30.9	28.2	5.3	9.7	11.8	33.6	-10.8	10.4
TRUCK	0										
*VEHICLE OWNER											
GSA	1	0.0	0.0	36.9	0.0	2.6	0.0	1.9	0.0	-6.2	0.0
PRIVATE OWNER	10	-26.7	66.4	30.3	29.7	5.5	10.2	12.8	35.2	-11.2	10.8
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	-75.0	82.6	19.4	34.0	6.2	11.0	-0.9	47.1	-7.6	8.3
NO CNV/NO APMP	7	4.7	25.0	37.5	24.7	4.8	9.9	19.1	24.4	-12.6	11.6
*DISPLACEMENT											
LESS THAN 151	1	-70.6	0.0	10.6	0.0	18.2	0.0	-54.7	0.0	-19.9	0.0
151 - 250	1	-190.4	0.0	-23.9	0.0	12.2	0.0	49.5	0.0	-2.6	0.0
251 - 350	6	-2.9	20.8	33.0	15.5	-0.2	8.6	8.6	24.6	-6.2	7.6
MORE THAN 350	3	3.8	41.0	51.7	31.8	9.6	7.9	27.8	27.9	-19.5	12.0
*INERTIA WEIGHT											
1800 - 2799	1	-70.6	0.0	10.6	0.0	18.2	0.0	-54.7	0.0	-19.9	0.0
2800 - 3799	5	-41.3	86.5	27.8	30.1	3.4	10.5	12.5	33.0	-7.6	7.6
3800 - 4799	5	2.1	29.1	38.0	30.1	4.6	9.0	24.5	20.5	-12.1	13.3
4800 - 5799	0										
ALL VEHICLES	11	-24.2	63.5	30.9	28.2	5.3	9.7	11.8	33.6	-10.8	10.4

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(PARA ADJ/DEVICE-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	5.06	0.0	75.18	0.0	562.4	0.0	1.92	0.00	12.7	0.0
CHRYSLER	2	3.99	1.8	30.71	30.1	520.0	23.8	2.25	1.26	15.3	0.8
FORD MOTOR CO.	3	5.33	1.3	38.22	24.7	560.6	118.5	3.40	.49	14.3	3.1
GENERAL MOTORS	5	6.05	2.4	36.60	13.4	449.6	104.1	2.61	1.12	17.4	3.3
IMPORTS	0										
*MODEL YEAR											
1968	1	5.77	0.0	43.61	0.0	599.3	0.0	3.69	0.00	12.9	0.0
1969	3	6.14	0.8	54.98	9.6	508.1	24.8	3.46	.34	14.5	1.0
1970	4	6.33	2.3	38.86	27.8	449.3	96.8	1.95	.78	17.3	3.3
1971	2	3.49	1.1	20.13	15.2	613.3	108.2	2.44	1.53	13.8	2.9
1972	1	2.78	0.0	29.99	0.0	384.3	0.0	2.94	0.00	20.2	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	5.39	1.9	39.48	20.8	502.9	100.2	2.70	.98	15.8	3.0
TRUCK	0										
*VEHICLE OWNER											
GSA	1	4.29	0.0	30.88	0.0	689.8	0.0	3.53	0.00	11.8	0.0
PRIVATE OWNER	10	5.50	2.0	40.34	21.7	484.2	82.9	2.62	.99	16.2	2.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	6.12	2.8	34.85	14.7	412.1	71.5	2.34	1.09	18.5	2.5
NO CNV/NO APMP	7	4.97	1.3	42.12	24.2	554.8	74.4	2.90	.93	14.2	2.1
*DISPLACEMENT											
LESS THAN 151	1	2.78	0.0	29.99	0.0	384.3	0.0	2.94	0.00	20.2	0.0
151 - 250	1	9.67	0.0	46.09	0.0	325.8	0.0	0.96	0.00	20.7	0.0
251 - 350	6	5.68	0.8	45.72	24.3	499.3	43.5	2.87	.75	15.3	2.1
MORE THAN 350	3	4.25	1.5	27.96	17.3	608.6	76.9	2.86	1.30	13.5	2.1
*INERTIA WEIGHT											
1800 - 2799	1	2.78	0.0	29.99	0.0	384.3	0.0	2.94	0.00	20.2	0.0
2800 - 3799	5	6.32	2.0	40.53	24.4	456.7	85.4	2.24	.95	16.9	3.0
3800 - 4799	5	4.98	1.6	40.33	21.4	572.8	74.1	3.11	1.01	13.8	1.6
4800 - 5799	0										
ALL VEHICLES	11	5.39	1.9	39.48	20.8	502.9	100.2	2.70	.98	15.8	3.0

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(PARA ADJ/DEVICE-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	1.99	0.0	-10.88	0.0	-72.5	0.0	0.11	0.00	1.7	0.0
CHRYSLER	2	0.86	1.9	26.30	26.3	38.8	33.7	0.40	.96	-1.9	1.8
FORD MOTOR CO.	3	1.77	2.8	1.23	14.6	17.6	47.6	0.17	.55	-0.6	2.0
GENERAL MOTORS	5	0.24	2.0	13.29	10.4	15.2	42.8	-0.20	.96	-1.4	1.5
IMPORTS	0										
*MODEL YEAR											
1968	1	-1.58	0.0	27.03	0.0	-12.2	0.0	-1.87	0.00	-0.5	0.0
1969	3	0.09	0.8	2.35	15.9	-19.6	30.0	-0.03	.26	0.4	1.0
1970	4	1.79	2.9	2.35	11.1	21.5	65.4	0.29	.28	-1.4	2.3
1971	2	1.36	1.2	27.88	24.1	48.6	19.7	0.33	1.06	-2.0	1.7
1972	1	1.58	0.0	12.66	0.0	22.0	0.0	0.51	0.00	-1.9	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	0.93	2.0	10.17	16.8	12.2	46.6	0.04	.76	-1.0	1.7
TRUCK	0										
*VEHICLE OWNER											
GSA	1	0.54	0.0	10.87	0.0	34.7	0.0	-0.42	0.00	-0.8	0.0
PRIVATE OWNER	10	0.96	2.1	10.10	17.7	9.9	48.5	0.08	.79	-1.0	1.8
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	0.69	2.0	9.85	8.2	22.1	45.2	0.21	.24	-1.6	1.6
NO CNV/NO APMP	7	1.06	2.2	10.35	20.8	6.5	49.5	-0.07	.95	-0.6	1.8
*DISPLACEMENT											
LESS THAN 151	1	1.58	0.0	12.66	0.0	22.0	0.0	0.51	0.00	-1.9	0.0
151 - 250	1	-2.14	0.0	14.13	0.0	74.8	0.0	0.08	0.00	-3.6	0.0
251 - 350	6	1.60	2.0	0.38	12.0	-8.0	48.2	0.17	.33	-0.1	1.6
MORE THAN 350	3	0.38	1.9	27.60	17.0	28.4	37.8	-0.40	1.48	-1.5	1.5
*INERTIA WEIGHT											
1800 - 2799	1	1.58	0.0	12.66	0.0	22.0	0.0	0.51	0.00	-1.9	0.0
2800 - 3799	5	1.63	2.6	4.86	11.2	9.6	62.5	0.23	.28	-1.0	2.1
3800 - 4799	5	0.09	1.4	14.98	22.6	12.8	38.7	-0.25	1.08	-0.7	1.6
4800 - 5799	0										
ALL VEHICLES	11	0.93	2.0	10.17	16.8	12.2	46.6	0.04	.76	-1.0	1.7

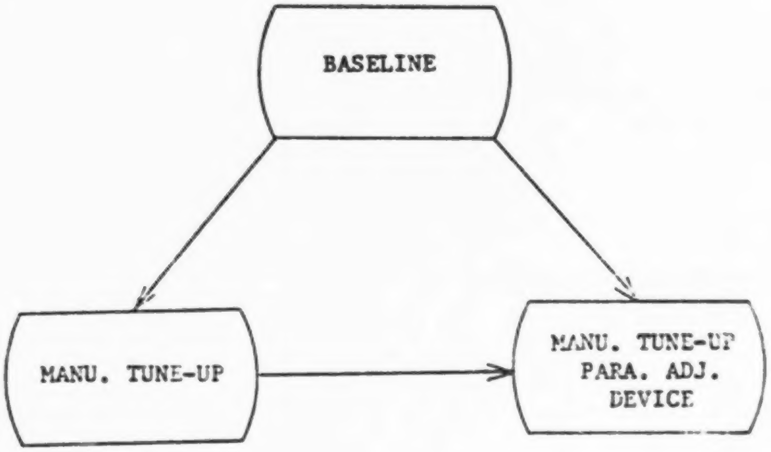
PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(PARA ADJ/DEVICE-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	28.2	0.0	-16.9	0.0	-14.8	0.0	5.4	0.0	12.0	0.0
CHRYSLER	2	17.4	38.7	47.8	49.3	6.7	5.3	17.2	38.2	-14.6	14.7
FORD MOTOR CO.	3	19.5	28.1	8.9	34.8	2.7	9.1	3.9	16.5	-4.8	13.1
GENERAL MOTORS	5	2.5	33.6	19.8	21.2	3.9	10.1	-13.7	50.2	-8.0	8.6
IMPORTS	0										
*MODEL YEAR											
1968	1	-37.7	0.0	38.3	0.0	-2.1	0.0	-102.7	0.0	-3.7	0.0
1969	3	0.0	12.2	2.0	29.1	-4.2	6.2	-1.7	7.9	2.3	6.8
1970	4	19.8	33.9	5.5	25.8	5.1	14.3	11.4	6.2	-8.1	14.6
1971	2	28.0	23.8	54.4	40.1	7.6	4.0	15.4	40.8	-16.0	12.7
1972	1	36.2	0.0	29.7	0.0	5.4	0.0	14.8	0.0	-10.6	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	12.2	29.2	18.6	31.5	2.4	9.8	-1.5	37.0	-6.5	11.6
TRUCK	0										
*VEHICLE OWNER											
GSA	1	11.2	0.0	26.0	0.0	4.8	0.0	-13.5	0.0	-7.1	0.0
PRIVATE OWNER	10	12.3	30.8	17.8	33.1	2.2	10.2	-0.3	38.7	-6.5	12.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	12.6	28.9	15.2	21.3	5.4	11.1	8.6	7.2	-9.1	9.5
NO CNV/NO APMP	7	12.0	31.7	20.5	37.6	0.7	9.4	-7.3	46.3	-5.1	13.1
*DISPLACEMENT											
LESS THAN 151	1	36.2	0.0	29.7	0.0	5.4	0.0	14.8	0.0	-10.6	0.0
151 - 250	1	-28.4	0.0	23.5	0.0	18.7	0.0	7.7	0.0	-21.0	0.0
251 - 350	6	18.0	22.7	0.7	25.6	-1.8	9.8	5.5	10.2	-0.7	10.7
MORE THAN 350	3	6.1	41.5	49.0	29.8	4.4	6.3	-24.0	74.1	-11.9	11.5
*INERTIA WEIGHT											
1800 - 2799	1	36.2	0.0	29.7	0.0	5.4	0.0	14.8	0.0	-10.6	0.0
2800 - 3799	5	18.6	29.4	9.2	23.9	2.4	13.8	8.9	7.7	-6.1	13.4
3800 - 4799	5	0.9	30.3	25.8	41.2	1.8	6.7	-15.2	54.0	-6.1	12.3
4800 - 5799	0										
ALL VEHICLES	11	12.2	29.2	18.6	31.5	2.4	9.8	-1.5	37.0	-6.5	11.6

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

1968-1972 VEHICLES

DATA SET 3
18 VEHICLES


BASELINE
MANU. TUNE-UP
MANU. TUNE-UP
PARA. ADJ.
DEVICE

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	5	4.70	1.6	80.01	28.6	412.9	84.9	1.98	.65	16.5	2.9
CHRYSLER	3	5.88	1.2	116.79	20.0	517.5	23.1	2.24	.71	12.4	0.7
FORD MOTOR CO.	5	5.94	3.4	78.16	27.3	498.0	121.9	3.04	1.37	14.2	2.5
GENERAL MOTORS	5	6.77	3.1	95.71	45.5	412.2	57.6	2.43	.43	15.6	2.9
IMPORTS	0										
*MODEL YEAR											
1968	2	6.18	0.6	129.60	37.5	404.4	96.5	1.91	.43	14.6	3.7
1969	4	6.86	3.4	103.75	17.1	447.1	72.6	2.51	1.38	14.1	1.3
1970	8	5.63	2.8	74.66	23.6	432.5	73.9	2.43	.80	16.1	2.7
1971	3	5.68	1.5	102.26	45.1	575.1	101.6	2.69	1.18	11.8	0.5
1972	1	2.80	0.0	41.48	0.0	385.2	0.0	2.65	0.00	19.3	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	18	5.82	2.5	89.99	33.3	453.8	91.3	2.44	.91	14.9	2.8
TRUCK	0										
*VEHICLE OWNER											
GSA	5	4.31	0.8	76.64	28.2	427.9	147.5	2.35	1.09	16.3	3.1
PRIVATE OWNER	13	6.40	2.7	95.12	34.7	463.7	64.5	2.48	.87	14.4	2.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	6.81	3.6	80.60	35.2	397.1	53.8	2.49	.48	16.5	2.4
NO CNV/NO APMP	14	5.53	2.2	92.67	33.6	470.0	94.6	2.43	1.01	14.5	2.8
*DISPLACEMENT											
LESS THAN 151	1	2.80	0.0	41.48	0.0	385.2	0.0	2.65	0.00	19.3	0.0
151 - 250	6	4.69	1.6	78.70	25.9	367.5	32.7	2.04	.66	17.6	1.2
251 - 350	7	7.16	3.2	91.87	24.0	482.8	51.3	2.69	1.10	13.8	1.6
MORE THAN 350	4	5.91	1.3	115.73	45.6	549.5	97.5	2.57	.99	11.8	0.4
*INERTIA WEIGHT											
1800 - 2799	2	2.97	0.2	45.47	5.6	402.3	24.3	2.46	.27	18.4	1.3
2800 - 3799	10	6.30	3.0	88.59	25.6	414.8	73.9	2.20	.86	15.8	2.4
3800 - 4799	6	5.96	1.4	107.16	37.8	535.9	78.6	2.85	1.07	12.3	0.8
4800 - 5799	0										
ALL VEHICLES	18	5.82	2.5	89.99	33.3	453.8	91.3	2.44	.91	14.9	2.8

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	5	4.02	1.5	58.55	38.3	447.8	59.0	2.35	1.05	16.5	2.7
CHRYSLER	3	4.68	0.8	68.97	12.2	549.9	60.2	3.25	.42	13.3	1.2
FORD MOTOR CO.	5	4.59	1.4	50.71	31.1	518.8	126.1	3.67	1.40	15.1	3.7
GENERAL MOTORS	5	3.95	1.7	48.53	18.4	497.2	137.3	2.84	1.21	15.9	3.5
IMPORTS	0										
***MODEL YEAR**											
1968	2	4.16	0.2	63.51	1.7	556.8	248.5	3.34	2.17	14.2	5.2
1969	4	5.62	1.3	77.09	9.7	473.0	44.0	3.20	1.54	14.5	0.8
1970	8	3.91	1.3	42.91	33.2	452.0	64.4	2.88	1.15	17.2	3.0
1971	3	4.37	0.7	61.22	15.9	625.9	71.5	3.22	.37	12.1	0.9
1972	1	1.63	0.0	33.55	0.0	469.9	0.0	1.90	0.00	16.8	0.0
1973	0										
1974	0										
1975	0										
***VEHICLE TYPE**											
AUTOMOBILE	18	4.27	1.4	55.33	27.0	498.3	103.8	3.00	1.17	15.4	3.1
TRUCK	0										
***VEHICLE OWNER**											
GSA	5	3.85	0.4	54.92	24.2	471.3	133.8	2.74	1.09	16.1	3.1
PRIVATE OWNER	13	4.43	1.6	55.48	28.9	508.6	94.1	3.10	1.22	15.1	3.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.87	2.0	45.07	19.3	438.3	45.4	2.33	.50	17.2	2.2
NO CNV/NO APMP	14	4.38	1.2	58.26	28.7	515.4	110.4	3.19	1.24	14.9	3.1
*DISPLACEMENT											
LESS THAN 151	1	1.63	0.0	33.55	0.0	469.9	0.0	1.90	0.00	16.8	0.0
151 - 250	6	3.54	0.4	46.36	27.4	400.8	24.4	2.70	1.17	18.5	2.0
251 - 350	7	5.23	1.5	62.59	33.2	497.7	37.3	3.06	1.33	14.7	1.7
MORE THAN 350	4	4.34	0.5	61.50	13.0	652.5	79.1	3.63	.88	11.7	1.1
*INERTIA WEIGHT											
1800 - 2799	2	2.30	0.9	24.43	12.9	428.0	59.3	3.05	1.63	19.0	3.1
2800 - 3799	10	4.28	1.3	55.80	31.8	449.3	58.2	2.47	1.02	16.4	2.4
3800 - 4799	6	4.91	1.1	64.83	11.3	603.2	99.1	3.87	.88	12.5	1.5
4800 - 5799	0										
ALL VEHICLES	18	4.27	1.4	55.33	27.0	498.3	103.8	3.00	1.17	15.4	3.1

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE-MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	5	4.02	1.5	58.55	38.3	447.8	59.0	2.35	1.05	16.5	2.7
CHRYSLER	3	4.68	0.8	68.97	12.2	549.9	60.2	3.25	.42	13.3	1.2
FORD MOTOR CO.	5	4.59	1.4	50.71	31.1	518.8	126.1	3.67	1.40	15.1	3.7
GENERAL MOTORS	5	3.95	1.7	48.53	18.4	497.2	137.3	2.84	1.21	15.9	3.5
IMPORTS	0										
*MODEL YEAR											
1968	2	4.16	0.2	63.51	1.7	556.8	248.5	3.34	2.17	14.2	5.2
1969	4	5.62	1.3	77.09	9.7	473.0	44.0	3.20	1.54	14.5	0.8
1970	8	3.91	1.3	42.91	33.2	452.0	64.4	2.88	1.15	17.2	3.0
1971	3	4.37	0.7	61.22	15.9	625.9	71.5	3.22	.37	12.1	0.9
1972	1	1.63	0.0	33.55	0.0	469.9	0.0	1.90	0.00	16.8	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	18	4.27	1.4	55.33	27.0	498.3	103.8	3.00	1.17	15.4	3.1
TRUCK	0										
*VEHICLE OWNER											
GSA	5	3.85	0.4	54.92	24.2	471.3	133.8	2.74	1.09	16.1	3.1
PRIVATE OWNER	13	4.43	1.6	55.48	28.9	508.6	94.1	3.10	1.22	15.1	3.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.87	2.0	45.07	19.3	438.3	45.4	2.33	.50	17.2	2.2
NO CNV/NO APMP	14	4.38	1.2	58.26	28.7	515.4	110.4	3.19	1.24	14.9	3.1
*DISPLACEMENT											
LESS THAN 151	1	1.63	0.0	33.55	0.0	469.9	0.0	1.90	0.00	16.8	0.0
151 - 250	6	3.54	0.4	46.36	27.4	400.8	24.4	2.70	1.17	18.5	2.0
251 - 350	7	5.23	1.5	62.59	33.2	497.7	37.3	3.06	1.33	14.7	1.7
MORE THAN 350	4	4.34	0.5	61.50	13.0	652.5	79.1	3.63	.88	11.7	1.1
*INERTIA WEIGHT											
1800 - 2799	2	2.30	0.9	24.43	12.9	428.0	59.3	3.05	1.63	19.0	3.1
2800 - 3799	10	4.28	1.3	55.80	31.8	449.3	58.2	2.47	1.02	16.4	2.4
3800 - 4799	6	4.91	1.1	64.83	11.3	603.2	99.1	3.87	.88	12.5	1.5
4800 - 5799	0										
ALL VEHICLES	18	4.27	1.4	55.33	27.0	498.3	103.8	3.00	1.17	15.4	3.1

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE-MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	5	0.69	0.6	21.46	17.7	-35.0	31.5	-0.37	.44	0.0	0.9
CHRYSLER	3	1.20	1.9	47.81	26.2	-32.3	63.9	-1.01	.57	-0.9	0.5
FORD MOTOR CO.	5	1.35	2.8	27.45	25.2	-20.8	32.9	-0.63	.80	-0.9	1.8
GENERAL MOTORS	5	2.82	1.6	47.18	31.7	-85.0	104.1	-0.40	1.34	-0.2	2.2
IMPORTS	0										
*MODEL YEAR											
1968	2	2.02	0.4	66.10	39.2	-152.4	152.0	-1.42	1.74	0.4	1.6
1969	4	1.24	2.5	26.65	16.1	-25.8	43.4	-0.69	.41	-0.4	0.9
1970	8	1.72	2.2	31.75	22.2	-19.5	35.7	-0.45	.74	-1.1	1.7
1971	3	1.32	1.7	41.04	36.9	-50.7	36.2	-0.52	.82	-0.3	0.5
1972	1	1.17	0.0	7.93	0.0	-84.7	0.0	0.75	0.00	2.5	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	18	1.55	1.9	34.66	26.1	-44.5	65.0	-0.56	.84	-0.5	1.5
TRUCK	0										
*VEHICLE OWNER											
GSA	5	0.46	0.8	21.72	15.5	-43.4	15.7	-0.39	.45	0.2	0.9
PRIVATE OWNER	13	1.97	2.1	39.63	28.1	-44.9	76.8	-0.62	.96	-0.7	1.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	2.95	1.8	35.53	20.8	-41.2	41.3	0.16	.55	-0.7	2.2
NO CNV/NO APMP	14	1.15	1.8	34.41	28.2	-45.4	71.6	-0.76	.81	-0.4	1.3
*DISPLACEMENT											
LESS THAN 151	1	1.17	0.0	7.93	0.0	-84.7	0.0	0.75	0.00	2.5	0.0
151 - 250	6	1.15	1.6	32.34	13.9	-33.3	33.9	-0.66	.73	-0.9	1.9
251 - 350	7	1.94	2.6	29.28	23.6	-14.9	37.3	-0.37	.53	-0.9	0.9
MORE THAN 350	4	1.57	1.5	54.23	40.0	-103.0	108.7	-1.05	1.26	0.1	1.0
*INERTIA WEIGHT											
1800 - 2799	2	0.67	0.7	21.04	18.5	-25.7	83.5	-0.59	1.90	-0.6	4.3
2800 - 3799	10	2.03	2.2	32.78	21.0	-34.6	28.2	-0.27	.40	-0.6	1.2
3800 - 4799	6	1.05	1.5	42.32	36.1	-67.3	102.8	-1.02	.99	-0.2	1.0
4800 - 5799	0										
ALL VEHICLES	18	1.55	1.9	34.66	26.1	-44.5	65.0	-0.56	.84	-0.5	1.5

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE-MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	5	14.3	10.2	30.8	22.1	-9.7	7.8	-15.2	17.0	-0.0	5.0
CHRYSLER	3	16.4	30.5	39.3	17.1	-6.4	12.7	-54.1	42.3	-7.1	3.5
FORD MOTOR CO.	5	12.3	25.5	35.6	32.2	-4.4	8.2	-27.2	34.8	-5.8	11.3
GENERAL MOTORS	5	40.8	9.9	45.0	16.6	-19.8	21.6	-20.0	58.8	-1.5	13.2
IMPORTS	0										
*MODEL YEAR											
1968	2	32.5	3.8	48.7	16.1	-34.2	29.4	-65.6	76.1	4.1	11.7
1969	4	9.3	25.0	24.7	10.9	-6.9	10.2	-30.4	15.8	-3.3	6.8
1970	8	23.3	21.4	45.3	25.0	-5.2	8.8	-18.2	31.9	-7.3	9.7
1971	3	18.4	27.3	32.4	27.7	-9.6	7.9	-34.9	54.7	-2.7	4.3
1972	1	41.8	0.0	19.1	0.0	-22.0	0.0	28.3	0.0	12.9	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	18	21.4	21.5	37.5	22.1	-10.5	14.1	-26.4	39.5	-3.2	9.3
TRUCK	0										
*VEHICLE OWNER											
GSA	5	8.7	15.4	27.6	19.9	-11.5	5.5	-19.8	17.4	1.2	5.1
PRIVATE OWNER	13	26.3	22.0	41.3	22.5	-10.1	16.5	-28.9	45.7	-4.9	10.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	42.1	10.8	41.2	16.5	-11.0	10.4	4.8	22.3	-4.9	12.4
NO CNV/NO APMP	14	15.5	20.2	36.4	23.9	-10.3	15.3	-35.3	39.3	-2.7	8.8
*DISPLACEMENT											
LESS THAN 151	1	41.8	0.0	19.1	0.0	-22.0	0.0	28.3	0.0	12.9	0.0
151 - 250	6	18.9	20.7	43.8	20.2	-9.6	9.0	-30.7	31.1	-5.1	10.7
251 - 350	7	20.0	24.4	33.6	24.0	-3.6	8.2	-13.5	20.7	-6.3	6.7
MORE THAN 350	4	22.6	23.8	39.3	26.5	-21.0	23.6	-56.0	61.5	1.1	8.3
*INERTIA WEIGHT											
1800 - 2799	2	23.6	25.7	44.1	35.3	-7.0	21.2	-28.6	80.4	-4.0	23.9
2800 - 3799	10	25.4	20.7	38.8	21.7	-9.2	7.1	-12.6	16.7	-4.3	7.7
3800 - 4799	6	14.1	24.0	33.0	22.8	-13.8	21.8	-48.5	50.4	-1.1	8.1
4800 - 5799	0										
ALL VEHICLES	18	21.4	21.5	37.5	22.1	-10.5	14.1	-26.4	39.5	-3.2	9.3

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	5	4.04	0.9	42.13	24.2	460.0	59.7	2.00	.80	16.8	2.5
CHRYSLER	3	3.86	1.3	30.28	21.3	545.3	47.0	2.26	.89	14.7	1.1
FORD MOTOR CO.	5	4.51	1.5	34.11	20.9	499.2	119.2	2.99	.74	16.3	3.7
GENERAL MOTORS	5	6.05	2.4	36.60	13.4	449.6	104.1	2.61	1.12	17.4	3.3
IMPORTS	0										
*MODEL YEAR											
1968	2	5.26	0.7	50.87	10.3	516.1	117.6	2.35	1.90	14.7	2.5
1969	4	5.47	1.5	51.78	10.1	486.7	47.4	3.07	.82	15.3	1.8
1970	8	4.85	2.2	30.81	21.2	436.7	67.5	2.21	.73	18.1	2.5
1971	3	3.52	0.8	23.24	12.0	607.5	77.2	2.39	1.09	13.7	2.0
1972	1	2.78	0.0	29.99	0.0	384.3	0.0	2.94	0.00	20.2	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	18	4.70	1.8	36.39	18.8	482.2	90.7	2.49	.91	16.5	2.9
TRUCK	0										
*VEHICLE OWNER											
GSA	5	4.01	0.5	36.82	15.2	477.5	118.8	2.40	.99	16.7	2.9
PRIVATE OWNER	13	4.96	2.0	36.23	20.6	484.0	83.4	2.52	.92	16.4	3.0
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	6.12	2.8	34.85	14.7	412.1	71.5	2.34	1.09	18.5	2.5
NO CNV/NO APMP	14	4.29	1.2	36.83	20.3	502.2	87.4	2.53	.89	15.9	2.8
*DISPLACEMENT											
LESS THAN 151	1	2.78	0.0	29.99	0.0	384.3	0.0	2.94	0.00	20.2	0.0
151 - 250	6	4.75	2.5	35.50	17.3	402.6	40.1	2.04	.91	18.9	1.7
251 - 350	7	5.27	1.3	42.68	23.6	494.0	42.1	2.67	.86	15.6	2.1
MORE THAN 350	4	4.08	1.3	28.33	14.1	605.5	63.1	2.72	1.10	13.5	1.7
*INERTIA WEIGHT											
1800 - 2799	2	2.93	0.2	21.85	11.5	388.1	5.5	2.88	.08	20.6	0.6
2800 - 3799	10	5.02	1.9	38.03	19.7	444.4	59.6	2.12	.84	17.3	2.2
3800 - 4799	6	4.75	1.5	38.51	19.7	576.7	66.9	2.97	.96	13.7	1.4
4800 - 5799	0										
ALL VEHICLES	18	4.70	1.8	36.39	18.8	482.2	90.7	2.49	.91	16.5	2.9

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	5	0.67	0.8	37.88	6.4	-47.1	34.7	-0.02	.36	-0.3	0.8
CHRYSLER	3	2.03	2.4	86.50	39.7	-27.8	63.6	-0.03	1.30	-2.4	1.6
FORD MOTOR CO.	5	1.43	2.7	44.05	26.8	-1.2	43.6	0.06	.75	-2.1	2.1
GENERAL MOTORS	5	0.72	2.7	59.10	37.9	-37.4	64.3	-0.18	1.20	-1.8	1.0
IMPORTS	0										
*MODEL YEAR											
1968	2	0.93	0.1	78.73	47.8	-111.8	21.1	-0.43	1.46	-0.1	1.2
1969	4	1.39	2.6	51.97	25.8	-39.6	41.0	-0.57	.77	-1.2	0.8
1970	8	0.78	2.5	43.85	14.7	-4.2	38.5	0.22	.66	-2.0	1.8
1971	3	2.16	2.2	79.03	52.5	-32.4	59.5	0.30	1.16	-2.0	2.0
1972	1	0.02	0.0	11.49	0.0	0.9	0.0	-0.29	0.00	-0.8	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	18	1.12	2.1	53.59	31.7	-28.4	50.2	-0.04	.84	-1.6	1.6
TRUCK	0										
*VEHICLE OWNER											
GSA	5	0.30	0.5	39.83	18.6	-49.7	37.0	-0.04	.55	-0.3	1.0
PRIVATE OWNER	13	1.44	2.5	58.89	34.6	-20.3	53.5	-0.04	.95	-2.0	1.5
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	0.69	3.1	45.75	27.0	-15.1	46.7	0.14	1.10	-2.0	1.1
NO CNV/NO APMP	14	1.24	1.9	55.83	33.4	-32.3	52.2	-0.10	.79	-1.4	1.7
*DISPLACEMENT											
LESS THAN 151	1	0.02	0.0	11.49	0.0	0.9	0.0	-0.29	0.00	-0.8	0.0
151 - 250	6	-0.06	1.2	43.21	13.6	-35.1	47.5	0.00	.72	-1.3	1.7
251 - 350	7	1.89	2.7	49.19	21.0	-11.2	44.1	0.01	.85	-1.8	1.6
MORE THAN 350	4	1.82	1.9	87.40	46.0	-56.0	67.7	-0.14	1.29	-1.7	1.7
*INERTIA WEIGHT											
1800 - 2799	2	0.03	0.0	23.62	17.2	14.2	18.8	-0.42	.19	-2.2	1.9
2800 - 3799	10	1.28	2.6	50.56	17.3	-29.6	47.5	0.08	.80	-1.5	1.7
3800 - 4799	6	1.21	1.8	68.64	46.5	-40.8	59.4	-0.12	1.08	-1.4	1.5
4800 - 5799	0										
ALL VEHICLES	18	1.12	2.1	53.59	31.7	-28.4	50.2	-0.04	.84	-1.6	1.6

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	5	11.4	10.9	50.5	13.5	-12.9	11.0	-0.3	22.2	-2.2	5.3
CHRYSLER	3	29.3	40.2	71.5	24.6	-5.7	12.8	-11.7	57.0	-19.6	14.1
FORD MOTOR CO.	5	14.1	25.1	55.5	23.8	-0.8	10.0	-13.3	44.2	-14.7	15.4
GENERAL MOTORS	5	5.2	27.4	57.3	19.6	-8.4	14.4	-9.3	52.4	-11.3	6.1
IMPORTS	0										
*MODEL YEAR											
1968	2	15.1	3.8	57.8	20.1	-27.8	1.4	-14.5	73.2	-1.7	8.5
1969	4	12.6	25.3	48.1	18.1	-9.9	10.2	-39.4	41.5	-8.3	5.7
1970	8	8.1	25.2	60.8	16.3	-1.6	9.5	5.8	27.7	-13.7	12.8
1971	3	31.8	35.8	69.5	27.9	-6.6	12.0	0.4	55.2	-16.6	16.9
1972	1	0.7	0.0	27.7	0.0	0.2	0.0	-10.9	0.0	-4.3	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	18	13.4	24.7	57.3	19.7	-7.1	11.9	-8.3	40.4	-11.1	11.6
TRUCK	0										
*VEHICLE OWNER											
GSA	5	5.8	11.0	51.5	13.4	-14.0	11.0	-9.7	45.5	-2.4	6.0
PRIVATE OWNER	13	16.4	28.1	59.5	21.7	-4.4	11.5	-7.8	40.2	-14.5	11.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.3	31.3	53.6	20.5	-3.8	11.6	4.9	48.0	-12.2	6.7
NO CNV/NO APMP	14	16.3	23.0	58.3	20.1	-8.0	12.3	-12.1	39.1	-10.8	12.8
*DISPLACEMENT											
LESS THAN 151	1	0.7	0.0	27.7	0.0	0.2	0.0	-10.9	0.0	-4.3	0.0
151 - 250	6	1.4	17.5	56.7	12.9	-10.1	13.5	-4.7	48.8	-7.4	9.9
251 - 350	7	17.8	26.0	54.6	20.8	-2.9	10.0	-6.5	31.7	-13.4	12.6
MORE THAN 350	4	27.0	30.8	70.1	22.8	-11.6	14.1	-16.3	56.1	-14.4	14.5
*INERTIA WEIGHT											
1800 - 2799	2	1.0	0.4	50.0	31.5	3.4	4.5	-17.8	9.7	-12.1	10.9
2800 - 3799	10	13.9	24.8	58.2	14.8	-8.3	12.4	-3.2	43.0	-10.6	12.3
3800 - 4799	6	16.8	29.8	58.1	26.5	-8.5	12.3	-13.7	45.6	-11.7	12.6
4800 - 5799	0										
ALL VEHICLES	18	13.4	24.7	57.3	19.7	-7.1	11.9	-8.3	40.4	-11.1	11.6

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	5	4.04	0.9	42.13	24.2	460.0	59.7	2.00	.80	16.8	2.5
CHRYSLER	3	3.86	1.3	30.28	21.3	545.3	47.0	2.26	.89	14.7	1.1
FORD MOTOR CO.	5	4.51	1.5	34.11	20.9	499.2	119.2	2.99	.74	16.3	3.7
GENERAL MOTORS	5	6.05	2.4	36.60	13.4	449.6	104.1	2.61	1.12	17.4	3.3
IMPORTS	0										
*MODEL YEAR											
1968	2	5.26	0.7	50.87	10.3	516.1	117.6	2.35	1.90	14.7	2.5
1969	4	5.47	1.5	51.78	10.1	486.7	47.4	3.07	.82	15.3	1.8
1970	8	4.85	2.2	30.81	21.2	436.7	67.5	2.21	.73	18.1	2.5
1971	3	3.52	0.8	23.24	12.0	607.5	77.2	2.39	1.09	13.7	2.0
1972	1	2.78	0.0	29.99	0.0	384.3	0.0	2.94	0.00	20.2	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	18	4.70	1.8	36.39	18.8	482.2	90.7	2.49	.91	16.5	2.9
TRUCK	0										
*VEHICLE OWNER											
GSA	5	4.01	0.5	36.82	15.2	477.5	118.8	2.40	.99	16.7	2.9
PRIVATE OWNER	13	4.96	2.0	36.23	20.6	484.0	83.4	2.52	.92	16.4	3.0
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	6.12	2.8	34.85	14.7	412.1	71.5	2.34	1.09	18.5	2.5
NO CNV/NO APMP	14	4.29	1.2	36.83	20.3	502.2	87.4	2.53	.89	15.9	2.8
*DISPLACEMENT											
LESS THAN 151	1	2.78	0.0	29.99	0.0	384.3	0.0	2.94	0.00	20.2	0.0
151 - 250	6	4.75	2.5	35.50	17.3	402.6	40.1	2.04	.91	18.9	1.7
251 - 350	7	5.27	1.3	42.68	23.6	494.0	42.1	2.67	.86	15.6	2.1
MORE THAN 350	4	4.08	1.3	28.33	14.1	605.5	63.1	2.72	1.10	13.5	1.7
*INERTIA WEIGHT											
1800 - 2799	2	2.93	0.2	21.85	11.5	388.1	5.5	2.88	.08	20.6	0.6
2800 - 3799	10	5.02	1.9	38.03	19.7	444.4	59.6	2.12	.84	17.3	2.2
3800 - 4799	6	4.75	1.5	38.51	19.7	576.7	66.9	2.97	.96	13.7	1.4
4800 - 5799	0										
ALL VEHICLES	18	4.70	1.8	36.39	18.8	482.2	90.7	2.49	.91	16.5	2.9

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	5	-0.02	0.8	16.42	20.6	-12.2	30.8	0.35	.56	-0.3	1.1
CHRYSLER	3	0.82	1.3	38.69	27.1	4.5	37.5	0.99	.73	-1.5	1.9
FORD MOTOR CO.	5	0.08	0.3	16.60	19.3	19.6	40.9	0.68	.89	-1.2	1.5
GENERAL MOTORS	5	-2.10	2.5	11.92	14.4	47.6	64.3	0.22	1.00	-1.5	1.3
IMPORTS	0										
*MODEL YEAR											
1968	2	-1.09	0.6	12.63	8.6	40.7	130.9	0.99	.28	-0.5	2.7
1969	4	0.15	0.3	25.31	18.4	-13.7	13.3	0.12	.90	-0.8	1.1
1970	8	-0.94	2.3	12.10	18.4	15.2	38.3	0.67	.63	-0.9	1.0
1971	3	0.84	1.3	37.99	27.9	18.3	29.1	0.82	.91	-1.6	1.7
1972	1	-1.15	0.0	3.56	0.0	85.6	0.0	-1.04	0.00	-3.3	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	18	-0.43	1.7	18.93	20.2	16.0	48.0	0.51	.80	-1.1	1.4
TRUCK	0										
*VEHICLE OWNER											
GSA	5	-0.16	0.5	18.10	21.0	-6.3	27.6	0.34	.61	-0.5	1.4
PRIVATE OWNER	13	-0.53	2.1	19.25	20.8	24.6	52.2	0.58	.87	-1.3	1.3
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	-2.26	2.8	10.22	16.0	26.2	49.5	-0.02	.98	-1.3	1.4
NO CNV/NO APMP	14	0.09	0.9	21.42	21.1	13.1	49.1	0.67	.71	-1.0	1.4
*DISPLACEMENT											
LESS THAN 151	1	-1.15	0.0	3.56	0.0	85.6	0.0	-1.04	0.00	-3.3	0.0
151 - 250	6	-1.21	2.5	10.87	22.2	-1.8	31.5	0.66	.67	-0.4	1.3
251 - 350	7	-0.05	0.9	19.91	14.3	3.7	42.9	0.38	.77	-1.0	1.0
MORE THAN 350	4	0.26	1.6	33.17	24.7	47.0	67.2	0.91	.76	-1.8	1.4
*INERTIA WEIGHT											
1800 - 2799	2	-0.64	0.7	2.58	1.4	39.8	64.7	0.17	1.71	-1.6	2.5
2800 - 3799	10	-0.74	2.1	17.77	19.9	5.0	41.2	0.35	.72	-0.9	1.3
3800 - 4799	6	0.16	1.2	26.32	22.4	26.5	57.9	0.90	.62	-1.3	1.4
4800 - 5799	0										
ALL VEHICLES	18	-0.43	1.7	18.93	20.2	16.0	48.0	0.51	.80	-1.1	1.4

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	5	-4.3	15.2	23.0	31.6	-3.0	7.3	11.1	26.4	-2.4	6.7
CHRYSLER	3	16.7	26.1	54.3	30.8	0.5	6.7	30.8	23.1	-11.8	15.3
FORD MOTOR CO.	5	1.9	6.6	28.4	19.5	3.3	7.6	9.4	32.2	-8.5	9.6
GENERAL MOTORS	5	-67.0	73.7	21.5	29.9	8.6	10.9	4.1	42.3	-10.7	9.9
IMPORTS	0										
*MODEL YEAR											
1968	2	-26.1	12.8	20.1	14.1	2.3	22.5	34.1	13.9	-7.5	22.0
1969	4	3.6	6.5	31.3	19.4	-2.9	2.9	-7.2	31.9	-5.1	7.3
1970	8	-30.0	67.1	22.5	32.3	3.3	7.7	18.9	23.3	-6.0	6.8
1971	3	17.1	25.7	57.3	27.2	3.0	5.0	26.4	28.3	-13.4	13.8
1972	1	-70.6	0.0	10.6	0.0	18.2	0.0	-54.7	0.0	-19.9	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	18	-16.5	50.1	29.3	28.0	2.6	9.0	12.0	31.2	-8.0	9.9
TRUCK	0										
*VEHICLE OWNER											
GSA	5	-4.5	11.6	27.1	34.4	-2.1	6.7	8.8	33.1	-3.9	8.9
PRIVATE OWNER	13	-21.1	58.6	30.2	26.8	4.4	9.3	13.2	31.7	-9.5	10.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	-75.0	82.6	19.4	34.0	6.2	11.0	-0.9	47.1	-7.6	8.3
NO CNV/NO APMP	14	0.2	18.9	32.1	26.9	1.5	8.5	15.6	26.4	-8.1	10.5
*DISPLACEMENT											
LESS THAN 151	1	-70.6	0.0	10.6	0.0	18.2	0.0	-54.7	0.0	-19.9	0.0
151 - 250	6	-36.2	76.2	14.2	36.1	-0.4	8.3	20.7	33.8	-2.5	8.1
251 - 350	7	-3.6	19.1	32.8	14.2	0.5	8.1	6.1	23.5	-6.5	7.0
MORE THAN 350	4	4.0	33.5	50.5	26.0	6.8	8.6	25.9	23.1	-15.8	12.3
*INERTIA WEIGHT											
1800 - 2799	2	-37.5	46.8	10.6	0.1	8.3	14.0	-11.0	61.9	-9.5	14.7
2800 - 3799	10	-23.7	61.0	26.9	30.3	0.8	8.9	9.5	31.8	-5.9	8.1
3800 - 4799	6	2.5	26.1	39.5	27.2	3.5	8.4	23.7	18.4	-10.8	12.3
4800 - 5799	0										
ALL VEHICLES	18	-16.5	50.1	29.3	28.0	2.6	9.0	12.0	31.2	-8.0	9.9

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

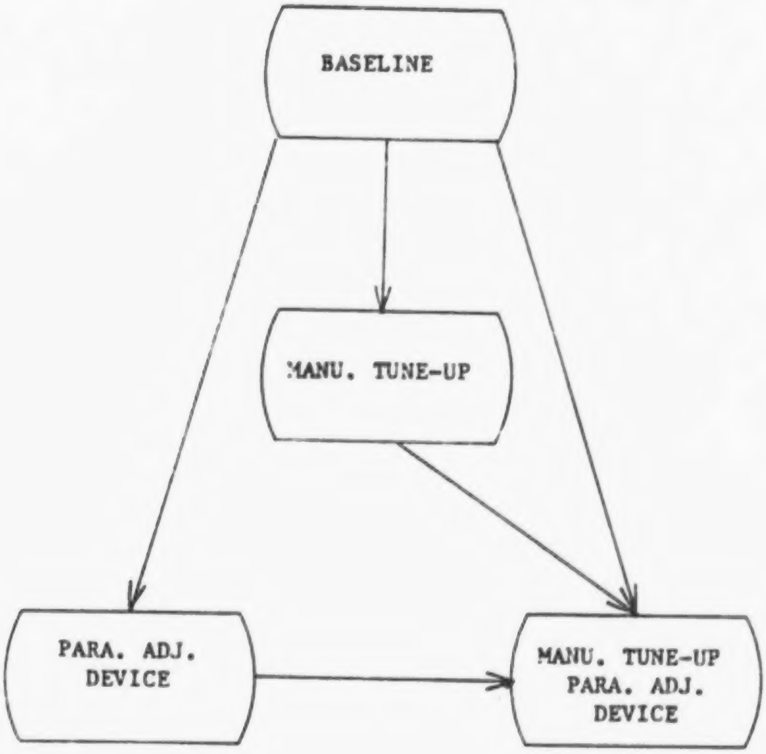
APPENDIX D

TABLES OF TEST RESULTS

DATA SET 1 PAGE D-2

1968-1972 VEHICLES

DATA SET 1
11 VEHICLES


BASELINE
MANU. TUNE-UP
PARA. ADJ. DEVICE
MANU. TUNE-UP PARA. ADJ. DEVICE

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES--COLD START DATA)
(BASELINE)

	# OF VEH.	HC MEAN	HC S.D.	CO MEAN	CO S.D.	CO2 MEAN	CO2 S.D.	NOX MEAN	NOX S.D.	MPG MEAN	MPG S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	11.46	0.0	153.54	0.0	576.0	0.0	1.53	0.00	10.4	0.0
CHRYSLER	2	6.60	0.2	125.43	5.9	545.4	25.0	2.60	.43	11.6	0.5
FORD MOTOR CO.	3	7.62	3.4	82.69	21.9	587.7	113.0	3.96	.33	12.0	1.1
GENERAL MOTORS	5	7.93	4.2	111.96	44.5	424.6	58.3	2.34	.39	14.6	2.7
IMPORTS	0										
*MODEL YEAR											
1968	1	6.84	0.0	161.97	0.0	492.4	0.0	2.34	0.00	11.6	0.0
1969	3	9.72	4.4	121.49	26.1	486.1	65.1	2.88	1.24	12.5	0.5
1970	4	9.30	2.2	111.70	28.0	478.9	99.6	2.51	1.07	13.4	2.7
1971	2	5.38	1.9	93.53	51.1	640.6	109.6	3.27	.52	11.0	0.3
1972	1	3.22	0.0	51.96	0.0	405.2	0.0	2.73	0.00	17.9	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	7.93	3.3	110.21	36.8	504.8	100.5	2.76	.88	13.0	2.4
TRUCK	0										
*VEHICLE OWNER											
GSA	1	4.03	0.0	57.43	0.0	718.1	0.0	3.64	0.00	10.8	0.0
PRIVATE OWNER	10	8.32	3.2	115.48	34.1	483.5	75.2	2.67	.87	13.2	2.4
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	8.20	4.8	99.45	40.0	407.6	51.1	2.36	.45	15.3	2.4
NO CNV/NO APMP	7	7.77	2.6	116.35	36.6	560.3	74.9	2.99	1.00	11.6	0.9
*DISPLACEMENT											
LESS THAN 151	1	3.22	0.0	51.96	0.0	405.2	0.0	2.73	0.00	17.9	0.0
151 - 250	1	7.94	0.0	101.14	0.0	344.6	0.0	1.87	0.00	16.8	0.0
251 - 350	6	9.74	3.1	118.35	27.7	504.9	57.0	2.80	1.09	12.4	1.1
MORE THAN 350	3	5.87	1.6	116.35	53.5	591.2	115.4	2.96	.65	11.2	0.4
*INERTIA WEIGHT											
1800 - 2799	1	3.22	0.0	51.96	0.0	405.2	0.0	2.73	0.00	17.9	0.0
2800 - 3799	5	10.38	3.0	119.29	29.6	465.4	91.4	2.42	.95	13.3	2.3
3800 - 4799	5	6.42	1.5	112.77	39.4	564.1	89.7	3.10	.86	11.7	0.8
4800 - 5799	0										
ALL VEHICLES	11	7.93	3.3	110.21	36.8	504.8	100.5	2.76	.88	13.0	2.4

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES--COLD START DATA)
(MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	12.59	0.0	156.17	0.0	551.4	0.0	1.52	0.00	10.6	0.0
CHRYSLER	2	6.73	1.5	99.33	6.8	538.8	72.6	3.62	.59	12.4	1.0
FORD MOTOR CO.	3	5.78	1.6	59.90	26.6	614.4	103.6	4.21	.70	12.4	1.9
GENERAL MOTORS	5	4.68	1.9	62.24	19.9	511.7	144.4	2.83	1.37	14.9	3.3
IMPORTS	0										
*MODEL YEAR											
1968	1	4.84	0.0	69.74	0.0	759.1	0.0	5.20	0.00	10.0	0.0
1969	3	7.63	0.2	92.81	11.0	501.5	41.4	3.87	1.10	13.2	0.6
1970	4	6.64	4.0	72.65	57.0	488.0	85.1	2.54	1.22	14.9	3.5
1971	2	5.14	0.7	80.92	19.3	662.0	101.5	3.35	.20	11.1	0.9
1972	1	2.22	0.0	45.11	0.0	491.2	0.0	1.89	0.00	15.6	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	6.07	2.7	76.88	35.1	548.3	114.1	3.23	1.26	13.4	2.7
TRUCK	0										
*VEHICLE OWNER											
CSA	1	4.65	0.0	67.29	0.0	733.8	0.0	3.49	0.00	10.4	0.0
PRIVATE OWNER	10	6.21	2.8	77.84	36.8	529.7	101.3	3.21	1.32	13.7	2.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	4.64	2.2	60.36	22.5	449.8	47.9	2.24	.43	16.1	2.2
NO CNV/NO APMP	7	6.89	2.8	86.32	38.8	604.5	102.0	3.80	1.23	11.8	1.6
*DISPLACEMENT											
LESS THAN 151	1	2.22	0.0	45.11	0.0	491.2	0.0	1.89	0.00	15.6	0.0
151 - 250	1	4.03	0.0	43.92	0.0	381.0	0.0	1.86	0.00	19.2	0.0
251 - 350	6	7.57	2.8	87.52	42.6	512.6	46.1	3.32	1.27	13.4	1.7
MORE THAN 350	3	5.04	0.5	77.20	15.1	694.4	91.1	3.97	1.08	10.7	0.9
*INERTIA WEIGHT											
1800 - 2799	1	2.22	0.0	45.11	0.0	491.2	0.0	1.89	0.00	15.6	0.0
2800 - 3799	5	6.80	3.5	76.57	50.1	484.2	74.2	2.57	1.06	14.7	3.1
3800 - 4799	5	6.11	1.5	83.55	15.8	623.7	118.2	4.16	.86	11.6	1.4
4800 - 5799	0										
ALL VEHICLES	11	6.07	2.7	76.88	35.1	548.3	114.1	3.23	1.26	13.4	2.7

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES--COLD START DATA)
(PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	7.81	0.0	80.72	0.0	507.4	0.0	1.97	0.00	13.5	0.0
CHRYSLER	2	5.10	0.2	58.18	0.8	579.2	59.0	2.74	.33	13.0	1.1
FORD MOTOR CO.	3	7.48	2.7	43.79	14.2	601.3	136.7	3.59	.45	13.1	2.3
GENERAL MOTORS	5	6.64	2.1	60.57	20.0	479.3	80.1	2.36	1.01	15.2	2.1
IMPORTS	0										
*MODEL YEAR											
1968	1	4.38	0.0	75.38	0.0	609.9	0.0	1.90	0.00	12.0	0.0
1969	3	6.88	1.8	65.51	13.9	504.8	39.7	3.39	.53	14.1	0.3
1970	4	8.52	1.3	51.95	23.2	485.4	51.1	2.21	1.12	15.0	1.2
1971	2	5.09	0.2	52.17	7.7	689.9	97.6	2.81	.42	11.3	1.2
1972	1	4.38	0.0	47.22	0.0	420.1	0.0	3.49	0.00	17.5	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	6.70	2.0	57.39	17.7	533.3	99.9	2.73	.90	14.0	2.0
TRUCK	0										
*VEHICLE OWNER											
GSA	1	4.96	0.0	46.72	0.0	758.9	0.0	3.10	0.00	10.5	0.0
PRIVATE OWNER	10	6.87	2.0	58.46	18.3	510.7	69.8	2.69	.94	14.4	1.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	7.20	2.0	56.87	21.0	446.6	38.0	2.47	1.13	16.0	1.2
NO CNV/NO APMP	7	6.41	2.1	57.69	17.4	582.8	89.7	2.88	.80	12.9	1.5
*DISPLACEMENT											
LESS THAN 151	1	4.38	0.0	47.22	0.0	420.1	0.0	3.49	0.00	17.5	0.0
151 - 250	1	7.31	0.0	65.23	0.0	411.9	0.0	0.99	0.00	16.5	0.0
251 - 350	6	7.90	1.8	56.52	22.5	507.4	27.6	3.01	.80	14.3	0.7
MORE THAN 350	3	4.85	0.4	59.91	14.5	663.2	83.0	2.50	.60	11.5	0.9
*INERTIA WEIGHT											
1800 - 2799	1	4.38	0.0	47.22	0.0	420.1	0.0	3.49	0.00	17.5	0.0
2800 - 3799	5	8.52	1.2	57.87	25.5	480.5	45.6	2.41	1.06	14.9	1.1
3800 - 4799	5	5.34	1.1	58.94	10.4	608.7	95.3	2.90	.77	12.5	1.5
4800 - 5799	0										
ALL VEHICLES	11	6.70	2.0	57.39	17.7	533.3	99.9	2.73	.90	14.0	2.0

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES--COLD START DATA)
(BASELINE-MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	12.59	0.0	156.17	0.0	551.4	0.0	1.52	0.00	10.6	0.0
CHRYSLER	2	6.73	1.5	99.33	6.8	538.8	72.6	3.62	.59	12.4	1.0
FORD MOTOR CO.	3	5.78	1.6	59.90	26.6	614.4	103.6	4.21	.70	12.4	1.9
GENERAL MOTORS	5	4.68	1.9	62.24	19.9	511.7	144.4	2.83	1.37	14.9	3.3
IMPORTS	0										
*MODEL YEAR											
1968	1	4.84	0.0	69.74	0.0	759.1	0.0	5.20	0.00	10.0	0.0
1969	3	7.63	0.2	92.81	11.0	501.5	41.4	3.87	1.10	13.2	0.6
1970	4	6.64	4.0	72.65	57.0	488.0	85.1	2.54	1.22	14.9	3.5
1971	2	5.14	0.7	80.92	19.3	662.0	101.5	3.35	.20	11.1	0.9
1972	1	2.22	0.0	45.11	0.0	491.2	0.0	1.89	0.00	15.6	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	6.07	2.7	76.88	35.1	548.3	114.1	3.23	1.26	13.4	2.7
TRUCK	0										
*VEHICLE OWNER											
GSA	1	4.65	0.0	67.29	0.0	733.8	0.0	3.49	0.00	10.4	0.0
PRIVATE OWNER	10	6.21	2.8	77.84	36.8	529.7	101.3	3.21	1.32	13.7	2.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	4.64	2.2	60.36	22.5	449.8	47.9	2.24	.43	16.1	2.2
NO CNV/NO APMP	7	6.89	2.8	86.32	38.8	604.5	102.0	3.80	1.23	11.8	1.6
*DISPLACEMENT											
LESS THAN 151	1	2.22	0.0	45.11	0.0	491.2	0.0	1.89	0.00	15.6	0.0
151 - 250	1	4.03	0.0	43.92	0.0	381.0	0.0	1.86	0.00	19.2	0.0
251 - 350	6	7.57	2.8	87.52	42.6	512.6	46.1	3.32	1.27	13.4	1.7
MORE THAN 350	3	5.04	0.5	77.20	15.1	694.4	91.1	3.97	1.08	10.7	0.9
*INERTIA WEIGHT											
1800 - 2799	1	2.22	0.0	45.11	0.0	491.2	0.0	1.89	0.00	15.6	0.0
2800 - 3799	5	6.80	3.5	76.57	50.1	484.2	74.2	2.57	1.06	14.7	3.1
3800 - 4799	5	6.11	1.5	83.55	15.8	623.7	118.2	4.16	.86	11.6	1.4
4800 - 5799	0										
ALL VEHICLES	11	6.07	2.7	76.88	35.1	548.3	114.1	3.23	1.26	13.4	2.7

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES--COLD START DATA)
(BASELINE-MANU. TUNE-UP)

	# OF VEH.	HC MEAN	HC S.D.	CO MEAN	CO S.D.	CO2 MEAN	CO2 S.D.	NOX MEAN	NOX S.D.	MPG MEAN	MPG S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	-1.13	0.0	-2.63	0.0	24.6	0.0	0.01	0.00	-0.2	0.0
CHRYSLER	2	-0.12	1.7	26.10	12.7	6.6	47.7	-1.02	1.02	-0.8	0.5
FORD MOTOR CO.	3	1.84	3.4	22.80	39.5	-26.7	10.1	-0.25	.37	-0.4	1.2
GENERAL MOTORS	5	3.25	2.4	49.72	31.5	-87.1	106.5	-0.49	1.43	-0.3	2.1
IMPORTS	0										
*MODEL YEAR											
1968	1	2.00	0.0	92.23	0.0	-266.7	0.0	-2.86	0.00	1.5	0.0
1969	3	2.08	4.5	28.68	25.0	-15.4	50.4	-0.99	.65	-0.7	0.7
1970	4	2.67	2.9	39.05	30.8	-9.1	31.6	-0.03	.22	-1.5	0.9
1971	2	0.24	1.2	12.61	31.8	-21.4	8.1	-0.07	.32	-0.0	0.6
1972	1	1.00	0.0	6.85	0.0	-86.0	0.0	0.84	0.00	2.3	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	1.85	2.8	33.32	32.2	-43.5	82.4	-0.48	1.02	-0.4	1.4
TRUCK	0										
*VEHICLE OWNER											
GSA	1	-0.62	0.0	-9.86	0.0	-15.7	0.0	0.15	0.00	0.4	0.0
PRIVATE OWNER	10	2.10	2.8	37.64	30.3	-46.2	86.3	-0.54	1.05	-0.5	1.5
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.56	2.7	39.09	24.0	-42.2	41.0	0.10	.61	-0.8	2.1
NO CNV/NO APMP	7	0.88	2.5	30.03	37.4	-44.1	102.3	-0.81	1.10	-0.2	1.1
*DISPLACEMENT											
LESS THAN 151	1	1.00	0.0	6.85	0.0	-86.0	0.0	0.84	0.00	2.3	0.0
151 - 250	1	3.91	0.0	57.22	0.0	-36.4	0.0	0.01	0.00	-2.4	0.0
251 - 350	6	2.17	3.6	30.84	27.2	-7.7	38.6	-0.51	.68	-1.0	0.8
MORE THAN 350	3	0.83	1.3	39.15	51.2	-103.2	141.7	-1.00	1.62	0.5	1.0
*INERTIA WEIGHT											
1800 - 2799	1	1.00	0.0	6.85	0.0	-86.0	0.0	0.84	0.00	2.3	0.0
2800 - 3799	5	3.57	3.2	42.72	27.9	-18.8	35.0	-0.15	.34	-1.4	0.8
3800 - 4799	5	0.31	1.3	29.22	38.7	-59.6	119.2	-1.07	1.22	0.1	1.0
4800 - 5799	0										
ALL VEHICLES	11	1.85	2.8	33.32	32.2	-43.5	82.4	-0.48	1.02	-0.4	1.4

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES--COLD START DATA)
(BASELINE-MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	-9.9	0.0	-1.7	0.0	4.3	0.0	0.7	0.0	-2.0	0.0
CHRYSLER	2	-2.2	26.2	20.6	9.1	1.4	8.8	-43.0	46.2	-6.7	3.6
FORD MOTOR CO.	3	14.2	35.1	21.3	43.7	-4.8	2.4	-5.9	9.1	-2.9	9.7
GENERAL MOTORS	5	37.9	10.3	40.4	18.0	-19.5	21.2	-23.1	59.8	-2.0	13.7
IMPORTS	0										
*MODEL YEAR											
1968	1	29.2	0.0	36.9	0.0	-54.2	0.0	-122.2	0.0	13.1	0.0
1969	3	11.1	35.3	21.6	14.5	-4.0	10.9	-40.3	31.9	-5.6	6.0
1970	4	30.8	28.8	40.1	30.8	-2.7	7.1	0.0	6.5	-10.7	5.9
1971	2	0.5	22.4	4.9	31.3	-3.5	1.9	-3.1	10.2	-0.1	5.7
1972	1	31.1	0.0	13.2	0.0	-21.2	0.0	30.8	0.0	12.6	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	19.8	26.7	27.7	26.6	-9.5	17.0	-19.9	43.3	-3.1	9.9
TRUCK	0										
*VEHICLE OWNER											
GSA	1	-15.4	0.0	-17.2	0.0	-2.2	0.0	4.1	0.0	3.9	0.0
PRIVATE OWNER	10	23.3	25.4	32.2	23.2	-10.3	17.7	-22.3	44.8	-3.8	10.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	40.0	10.5	36.2	17.8	-10.9	9.9	1.7	25.9	-5.8	12.5
NO CNV/NO APMP	7	8.2	26.6	22.9	30.8	-8.8	20.7	-32.2	47.9	-1.6	8.9
*DISPLACEMENT											
LESS THAN 151	1	31.1	0.0	13.2	0.0	-21.2	0.0	30.8	0.0	12.6	0.0
151 - 250	1	49.2	0.0	56.6	0.0	-10.6	0.0	0.5	0.0	-14.2	0.0
251 - 350	6	17.9	31.0	28.1	25.2	-2.0	8.2	-20.2	30.3	-7.6	6.0
MORE THAN 350	3	10.1	23.0	22.3	37.3	-20.4	29.3	-42.8	69.2	4.3	8.6
*INERTIA WEIGHT											
1800 - 2799	1	31.1	0.0	13.2	0.0	-21.2	0.0	30.8	0.0	12.6	0.0
2800 - 3799	5	34.4	26.2	39.7	26.7	-5.0	8.0	-6.3	15.3	-10.3	5.2
3800 - 4799	5	2.9	21.0	18.7	26.8	-11.8	24.3	-43.5	53.6	1.0	8.5
4800 - 5799	0										
ALL VEHICLES	11	19.8	26.7	27.7	26.6	-9.5	17.0	-19.9	43.3	-3.1	9.9

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES--COLD START DATA)
(BASELINE--PARA ADJ/DEVICE)

	# OF VEH.	HC MEAN	HC S.D.	CO MEAN	CO S.D.	CO2 MEAN	CO2 S.D.	NOX MEAN	NOX S.D.	MPG MEAN	MPG S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	7.81	0.0	80.72	0.0	507.4	0.0	1.97	0.00	13.5	0.0
CHRYSLER	2	5.10	0.2	58.18	0.8	579.2	59.0	2.74	.33	13.0	1.1
FORD MOTOR CO.	3	7.48	2.7	43.79	14.2	601.3	136.7	3.59	.45	13.1	2.3
GENERAL MOTORS	5	6.64	2.1	60.57	20.0	479.3	80.1	2.36	1.01	15.2	2.1
IMPORTS	0										
*MODEL YEAR											
1968	1	4.38	0.0	75.38	0.0	609.9	0.0	1.90	0.00	12.0	0.0
1969	3	6.88	1.8	65.51	13.9	504.8	39.7	3.39	.53	14.1	0.3
1970	4	8.52	1.3	51.95	25.2	485.4	51.1	2.21	1.12	15.0	1.3
1971	2	5.09	0.2	52.17	7.7	689.9	97.6	2.81	.42	11.3	1.2
1972	1	4.38	0.0	47.22	0.0	420.1	0.0	3.49	0.00	17.5	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	6.70	2.0	57.39	17.7	533.3	99.9	2.73	.90	14.0	2.0
TRUCK	0										
*VEHICLE OWNER											
GSA	1	4.96	0.0	46.72	0.0	758.9	0.0	3.10	0.00	10.5	0.0
PRIVATE OWNER	10	6.87	2.0	58.46	18.3	[illegible]	99.8	2.69	.94	14.4	1.7
*[illegible] CONVERTER,AIR PUMP											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	7.21	2.0	56.87	21.0	446.6	38.0	2.47	1.13	16.0	1.3
NO CNV/NO APMP	7	6.41	2.1	57.69	17.4	582.8	89.7	2.88	.80	12.9	1.5
*DISPLACEMENT											
LESS THAN 151	1	4.38	0.0	47.22	0.0	420.1	0.0	3.49	0.00	17.5	0.0
151 - 250	1	7.31	0.0	65.23	0.0	411.9	0.0	0.99	0.00	16.5	0.0
251 - 350	6	7.90	1.8	56.52	22.5	507.4	27.6	3.01	.80	14.3	0.7
MORE THAN 350	3	4.85	0.4	59.91	14.5	663.2	83.0	2.50	.60	11.5	0.9
*INERTIA WEIGHT											
1800 - 2799	1	4.38	0.0	47.22	0.0	420.1	0.0	3.49	0.00	17.5	0.0
2800 - 3799	5	8.52	1.2	57.87	25.5	480.5	45.6	2.41	1.06	14.9	1.1
3800 - 4799	5	5.34	1.1	58.94	10.4	603.7	95.3	2.90	.77	12.4	[illegible]
4800 - 5799	0										
ALL VEHICLES	11	6.70	2.0	57.39	17.7	533.3	99.9	2.73	.90	14.0	2.0

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES--COLD START DATA)
(BASELINE--PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	3.65	0.0	72.82	0.0	68.6	0.0	-0.44	0.00	-3.1	0.0
CHRYSLER	2	1.51	0.0	67.25	6.7	-33.7	34.0	-0.14	.76	-1.3	0.6
FORD MOTOR CO.	3	0.14	0.9	38.91	29.0	-13.6	23.8	0.36	.16	-1.1	1.3
GENERAL MOTORS	5	1.29	3.2	51.39	31.8	-54.7	40.8	-0.02	.89	-0.6	1.0
IMPORTS	0										
*MODEL YEAR											
1968	1	2.46	0.0	86.59	0.0	-117.5	0.0	0.44	0.00	-0.4	0.0
1969	3	2.84	2.9	55.98	16.4	-18.8	27.4	-0.51	.75	-1.6	0.2
1970	4	0.78	2.2	59.74	16.6	-6.4	56.8	0.30	.56	-1.6	1.4
1971	2	0.29	1.7	41.36	43.4	-49.3	12.0	0.47	.10	-0.3	0.9
1972	1	-1.16	0.0	4.74	0.0	-14.9	0.0	-0.76	0.00	0.4	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	1.23	2.3	52.82	26.8	-28.5	47.4	0.03	.67	-1.1	1.1
TRUCK	0										
*VEHICLE OWNER											
GSA	1	-0.93	0.0	10.71	0.0	-40.8	0.0	0.54	0.00	0.3	0.0
PRIVATE OWNER	10	1.45	2.3	57.03	24.1	-27.2	49.8	-0.03	.68	-1.2	1.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	1.00	3.6	42.58	28.8	-39.0	23.9	0.13	.99	-0.6	1.1
NO CNV/NO APMP	7	1.36	1.5	58.66	25.9	-22.4	57.9	0.12	.48	-1.3	1.1
*DISPLACEMENT											
LESS THAN 151	1	-1.16	0.0	4.74	0.0	-14.9	0.0	-0.76	0.00	0.4	0.0
151 - 250	1	0.63	0.0	35.91	0.0	-67.3	0.0	0.88	0.00	0.3	0.0
251 - 350	6	1.84	2.7	61.83	12.7	-2.5	39.6	-0.20	.66	-1.9	0.6
MORE THAN 350	3	1.02	1.8	56.44	40.3	-72.0	40.3	0.46	.07	-0.3	0.6
*INERTIA WEIGHT											
1800 - 2799	1	-1.16	0.0	4.74	0.0	-14.9	0.0	-0.76	0.00	0.4	0.0
2800 - 3799	5	1.86	3.1	61.42	14.8	-15.1	52.8	0.01	.82	-1.6	1.2
3800 - 4799	5	1.08	1.3	53.83	30.0	-44.6	47.4	0.20	.50	-0.8	0.8
4800 - 5799	0										
ALL VEHICLES	11	1.23	2.3	52.82	26.8	-28.5	47.4	0.03	.67	-1.1	1.1

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES--COLD START DATA)
(BASELINE--PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	31.8	0.0	47.4	0.0	11.9	0.0	-28.8	0.0	-29.5	0.0
CHRYSLER	2	22.8	0.3	53.6	2.8	-6.1	6.0	-7.9	30.6	-11.4	4.4
FORD MOTOR CO.	3	-2.6	18.0	43.1	26.2	-1.9	3.3	9.4	4.8	-8.2	10.5
GENERAL MOTORS	5	5.3	34.7	41.7	21.1	-12.9	8.8	-0.0	41.8	-4.8	7.1
IMPORTS	0										
*MODEL YEAR											
1968	1	36.0	0.0	53.5	0.0	-23.9	0.0	18.8	0.0	-3.5	0.0
1969	3	25.3	15.7	45.7	5.8	-4.4	6.7	-26.6	32.4	-12.4	2.1
1970	4	5.2	22.6	54.6	16.1	-3.3	13.0	10.9	31.5	-14.3	13.0
1971	2	-0.3	32.3	37.1	26.1	-8.0	3.2	14.3	0.8	-2.6	8.1
1972	1	-36.0	0.0	9.1	0.0	-3.7	0.0	-27.8	0.0	2.2	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	8.7	26.2	44.7	18.4	-6.4	9.9	-1.5	30.3	-9.2	9.8
TRUCK	0										
*VEHICLE OWNER											
GSA	1	-23.1	0.0	18.6	0.0	-5.7	0.0	14.8	0.0	3.1	0.0
PRIVATE OWNER	10	11.9	25.2	47.4	17.1	-6.4	10.4	-3.1	31.4	-10.4	9.4
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	-2.3	34.9	38.7	23.2	-10.1	7.3	-4.8	46.7	-5.1	8.1
NO CNV/NO APMP	7	15.1	20.1	48.2	16.0	-4.2	11.0	0.3	20.6	-11.5	10.5
*DISPLACEMENT											
LESS THAN 151	1	-36.0	0.0	9.1	0.0	-3.7	0.0	-27.8	0.0	2.2	0.0
151 - 250	1	7.9	0.0	35.5	0.0	-19.5	0.0	47.1	0.0	1.7	0.0
251 - 350	6	14.8	23.1	53.3	12.0	-1.2	7.9	-13.9	29.3	-16.0	7.1
MORE THAN 350	3	11.8	31.0	42.6	20.7	-13.3	9.5	15.8	2.7	-2.9	5.7
*INERTIA WEIGHT											
1800 - 2799	1	-36.0	0.0	9.1	0.0	-3.7	0.0	-27.8	0.0	2.2	0.0
2800 - 3799	5	12.6	25.6	52.8	14.5	-5.1	11.9	-2.8	40.9	-13.9	11.3
3800 - 4799	5	13.9	22.5	43.8	15.3	-8.2	9.7	5.0	19.8	-6.7	6.8
4800 - 5799	0										
ALL VEHICLES	11	8.7	26.2	44.7	18.4	-6.4	9.9	-1.5	30.3	-9.2	9.8

AUTOMOTIVE TESTING LABORATORIES,INC.
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EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES--COLD START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	10.33	0.0	108.74	0.0	584.9	0.0	1.85	0.00	11.2	0.0
CHRYSLER	2	5.64	3.3	51.46	52.4	535.0	29.9	2.14	1.04	14.1	1.4
FORD MOTOR CO.	3	5.74	1.7	43.47	27.9	582.0	126.9	3.38	.43	13.7	3.1
GENERAL MOTORS	5	6.56	2.3	48.35	14.2	463.5	107.4	2.53	1.09	16.4	3.2
IMPORTS	0										
*MODEL YEAR											
1968	1	6.15	0.0	52.02	0.0	623.3	0.0	3.66	0.00	12.2	0.0
1969	3	7.73	0.3	77.30	10.0	520.6	30.6	3.26	.43	13.3	0.7
1970	4	7.81	2.6	52.26	39.6	464.1	100.8	1.90	.79	16.2	3.6
1971	2	3.87	0.8	25.53	15.8	638.4	116.3	2.46	1.48	13.1	2.7
1972	1	3.34	0.0	39.77	0.0	400.1	0.0	2.98	0.00	18.8	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	6.51	2.4	53.07	29.3	519.8	105.6	2.63	.95	14.8	3.0
TRUCK	0										
*VEHICLE OWNER											
GSA	1	4.46	0.0	36.68	0.0	720.6	0.0	3.51	0.00	11.2	0.0
PRIVATE OWNER	10	6.72	2.4	54.71	30.4	499.8	86.3	2.54	.95	15.1	2.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	6.66	2.6	47.43	16.3	423.5	68.8	2.25	1.02	17.4	2.5
NO CNV/NO APMP	7	6.43	2.4	56.30	35.6	574.9	80.5	2.85	.91	13.2	2.2
*DISPLACEMENT											
LESS THAN 151	1	3.34	0.0	39.77	0.0	400.1	0.0	2.98	0.00	18.8	0.0
151 - 250	1	9.63	0.0	49.33	0.0	338.4	0.0	0.96	0.00	19.9	0.0
251 - 350	6	7.46	1.8	65.27	33.9	513.3	48.1	2.74	.73	14.2	2.3
MORE THAN 350	3	4.63	1.4	34.36	18.9	633.4	82.7	2.86	1.26	12.8	2.0
*INERTIA WEIGHT											
1800 - 2799	1	3.34	0.0	39.77	0.0	400.1	0.0	2.98	0.00	18.8	0.0
2800 - 3799	5	7.73	2.2	55.65	35.1	470.1	88.3	2.16	.89	15.8	3.3
3800 - 4799	5	5.93	2.0	53.15	29.4	593.6	81.1	3.04	.97	12.9	1.4
4800 - 5799	0										
ALL VEHICLES	11	6.51	2.4	53.07	29.3	519.8	105.6	2.63	.95	14.8	3.0

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES--COLD START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF VEH.	HC MEAN	HC S.D.	CO MEAN	CO S.D.	CO2 MEAN	CO2 S.D.	NOX MEAN	NOX S.D.	MPG MEAN	MPG S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	1.13	0.0	44.80	0.0	-8.9	0.0	-0.32	0.00	-0.9	0.0
CHRYSLER	2	0.96	3.5	73.97	58.4	10.4	4.9	0.46	1.47	-2.4	1.9
FORD MOTOR CO.	3	1.88	3.4	39.23	33.2	5.7	45.0	0.58	.45	-1.7	2.6
GENERAL MOTORS	5	1.37	3.4	63.61	36.1	-38.9	64.3	-0.19	1.04	-1.8	1.1
IMPORTS	0										
*MODEL YEAR											
1968	1	0.69	0.0	109.95	0.0	-130.9	0.0	-1.32	0.00	-0.7	0.0
1969	3	1.99	4.6	44.19	32.1	-34.5	48.4	-0.38	.86	-0.8	0.8
1970	4	1.50	3.1	59.44	14.3	14.9	27.3	0.61	.62	-2.9	1.6
1971	2	1.51	2.8	68.00	66.8	2.2	6.6	0.82	.97	-2.1	2.4
1972	1	-0.12	0.0	12.19	0.0	5.1	0.0	-0.25	0.00	-0.9	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	1.41	2.9	57.13	35.7	-15.0	51.1	0.12	.92	-1.8	1.6
TRUCK	0										
*VEHICLE OWNER											
GSA	1	-0.43	0.0	20.75	0.0	-2.5	0.0	0.13	0.00	-0.4	0.0
PRIVATE OWNER	10	1.60	3.0	66.77	35.4	-16.3	53.7	0.12	.97	-1.9	1.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	1.54	3.9	52.02	29.0	-15.9	44.6	0.09	.96	-2.1	1.1
NO CNV/NO APMP	7	1.34	2.5	60.05	40.9	-14.6	57.9	0.14	.97	-1.6	1.8
*DISPLACEMENT											
LESS THAN 151	1	-0.12	0.0	12.19	0.0	5.1	0.0	-0.25	0.00	-0.9	0.0
151 - 250	1	-1.69	0.0	51.81	0.0	6.2	0.0	0.91	0.00	-3.1	0.0
251 - 350	6	2.27	3.4	53.09	24.8	-8.4	46.7	0.07	.86	-1.8	1.7
MORE THAN 350	3	1.24	2.0	81.98	53.1	-42.2	77.0	0.10	1.41	-1.6	1.9
*INERTIA WEIGHT											
1800 - 2799	1	-0.12	0.0	12.19	0.0	5.1	0.0	-0.25	0.00	-0.9	0.0
2800 - 3799	5	2.64	3.7	63.64	15.6	-4.7	49.7	0.26	.94	-2.6	1.5
3800 - 4799	5	0.49	1.[illegible]	59.62	48.7	-29.4	59.7	0.06	1.08	-1.2	1.5
4800 - 5799	0										
ALL VEHICLES	11	1.41	2.9	57.13	35.7	-15.0	51.1	0.12	.92	-1.8	1.6

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PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES--COLD START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	9.9	0.0	29.2	0.0	-1.5	0.0	-20.9	0.0	-8.2	0.0
CHRYSLER	2	13.8	53.1	57.9	43.8	1.9	1.0	13.2	54.3	-21.3	17.6
FORD MOTOR CO.	3	15.5	33.7	45.6	30.6	1.1	8.6	14.3	11.4	-13.5	20.8
GENERAL MOTORS	5	9.0	26.0	52.7	18.0	-8.4	13.9	-8.4	47.9	-12.2	7.1
IMPORTS	0										
*MODEL YEAR											
1968	1	10.1	0.0	67.9	0.0	-26.6	0.0	-56.4	0.0	-6.1	0.0
1969	3	9.7	36.9	33.8	17.5	-8.1	11.5	-22.3	34.2	-6.4	6.0
1970	4	13.2	30.7	56.8	21.8	3.1	5.1	20.9	29.6	-21.2	12.1
1971	2	20.3	43.8	62.5	37.3	0.4	1.1	27.6	33.9	-18.7	21.3
1972	1	-3.7	0.0	23.5	0.0	1.3	0.0	-9.2	0.0	-5.1	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	11.7	28.1	49.6	24.0	-3.3	10.8	0.6	37.6	-13.9	12.4
TRUCK	0										
*VEHICLE OWNER											
GSA	1	-10.7	0.0	36.1	0.0	-0.3	0.0	3.6	0.0	-3.6	0.0
PRIVATE OWNER	10	14.0	28.6	50.9	24.8	-3.6	11.3	0.3	39.6	-14.9	12.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	8.8	30.0	48.9	18.3	-3.9	10.9	3.6	45.8	-13.7	7.2
NO CNV/NO APMP	7	13.4	29.2	50.0	28.1	-3.0	11.6	-1.1	36.0	-13.9	15.2
*DISPLACEMENT											
LESS THAN 151	1	-3.7	0.0	23.5	0.0	1.3	0.0	-9.2	0.0	-5.1	0.0
151 - 250	1	-21.3	0.0	51.2	0.0	1.8	0.0	48.7	0.0	-18.4	0.0
251 - 350	6	17.2	29.3	46.2	24.2	-2.3	10.4	-5.3	33.7	-14.2	13.2
MORE THAN 350	3	16.9	31.6	64.3	26.6	-8.6	15.6	-0.4	54.1	-14.5	16.7
*INERTIA WEIGHT											
1800 - 2799	1	-3.7	0.0	23.5	0.0	1.3	0.0	-9.2	0.0	-5.1	0.0
2800 - 3799	5	20.4	31.1	56.2	18.9	-1.6	11.3	5.8	42.5	-19.1	11.5
3800 - 4799	5	6.1	28.5	48.1	29.1	-5.9	12.1	-2.7	40.7	-10.4	13.5
4800 - 5799	0										
ALL VEHICLES	11	11.7	28.1	49.6	24.0	-3.3	10.8	0.6	37.6	-13.9	12.4

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES--COLD START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	10.33	0.0	108.74	0.0	584.9	0.0	1.85	0.00	11.2	0.0
CHRYSLER	2	5.64	3.3	51.46	52.4	535.0	[illegible]	2.14	1.04	14.1	1.4
FORD MOTOR CO.	3	5.74	1.7	43.47	27.9	582.0	[illegible]	3.38	.43	13.7	3.1
GENERAL MOTORS	5	6.56	2.3	48.35	14.2	463.5	107.4	2.53	1.09	16.4	3.2
IMPORTS	0										
*MODEL YEAR											
1968	1	6.15	0.0	52.02	0.0	623.3	0.0	3.66	0.00	12.2	0.0
1969	3	7.73	0.3	77.30	10.0	520.6	30.6	3.26	.43	13.3	0.7
1970	4	7.81	2.6	52.26	39.6	464.1	100.8	1.90	.79	16.2	3.6
1971	2	3.87	0.8	25.53	15.8	638.4	116.3	2.46	1.48	13.1	2.7
1972	1	3.34	0.0	39.77	0.0	400.1	0.0	2.98	0.00	18.8	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	6.51	2.4	53.07	29.3	519.8	105.6	2.63	.95	14.8	3.0
TRUCK	0										
*VEHICLE OWNER											
GSA	1	4.46	0.0	36.68	0.0	720.6	0.0	3.51	0.00	11.2	0.0
PRIVATE OWNER	10	6.72	2.4	54.71	30.4	499.8	86.3	2.54	.95	15.1	2.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	6.66	2.6	47.43	16.3	423.5	68.8	2.25	1.02	17.4	2.5
NO CNV/NO APMP	7	6.43	2.4	56.30	35.6	574.9	80.5	2.85	.91	13.2	2.2
*DISPLACEMENT											
LESS THAN 151	1	3.34	0.0	39.77	0.0	400.1	0.0	2.98	0.00	18.8	0.0
151 - 250	1	9.63	0.0	49.33	0.0	338.4	0.0	0.96	0.00	19.9	0.0
251 - 350	6	7.46	1.8	65.27	33.9	513.3	48.1	2.74	.73	14.2	2.3
MORE THAN 350	3	4.63	1.4	34.36	18.9	633.4	82.7	2.86	1.26	12.8	2.0
*INERTIA WEIGHT											
1800 - 2799	1	3.34	0.0	39.77	0.0	400.1	0.0	2.98	0.00	18.8	0.0
2800 - 3799	5	7.73	2.2	55.65	35.1	470.1	88.3	2.16	.89	15.8	3.3
3800 - 4799	5	5.93	2.0	53.15	29.4	593.6	81.1	3.04	.97	12.9	1.4
4800 - 5799	0										
ALL VEHICLES	11	6.51	2.4	53.07	29.3	519.8	105.6	2.63	.95	14.8	3.0

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES--COLD START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	2.26	0.0	47.43	0.0	-33.5	0.0	-0.33	0.00	-0.6	0.0
CHRYSLER	2	1.08	1.8	47.87	45.7	3.8	42.7	1.48	.45	-1.6	2.4
FORD MOTOR CO.	3	0.04	0.2	16.43	12.4	32.4	50.7	0.83	.74	-1.3	1.5
GENERAL MOTORS	5	-1.88	2.2	13.89	13.8	48.2	66.2	0.30	1.06	-1.5	1.2
IMPORTS	0										
*MODEL YEAR											
1968	1	-1.31	0.0	17.72	0.0	135.8	0.0	1.54	0.00	-2.2	0.0
1969	3	-0.09	0.1	15.51	7.6	-19.1	11.5	0.61	.94	-0.1	0.2
1970	4	-1.17	3.3	20.39	22.8	23.9	54.0	0.64	.71	-1.3	1.1
1971	2	1.27	1.5	55.39	35.0	23.6	14.7	0.89	1.29	-2.1	1.8
1972	1	-1.12	0.0	5.34	0.0	91.1	0.0	-1.09	0.00	-3.2	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	-0.44	2.1	23.81	23.5	28.4	56.2	0.60	.94	-1.4	1.3
TRUCK	0										
*VEHICLE OWNER											
GSA	1	0.19	0.0	30.61	0.0	13.2	0.0	-0.02	0.00	-0.8	0.0
PRIVATE OWNER	10	-0.50	2.2	23.13	24.7	29.9	59.0	0.66	.97	-1.4	1.3
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	-2.02	2.5	12.94	15.8	26.3	51.6	-0.01	.93	-1.3	1.3
NO CNV/NO APMP	7	0.46	1.4	30.03	25.9	29.6	62.7	0.95	.81	-1.4	1.4
*DISPLACEMENT											
LESS THAN 151	1	-1.12	0.0	5.34	0.0	91.1	0.0	-1.09	0.00	-3.2	0.0
151 - 250	1	-5.60	0.0	-5.41	0.0	42.6	0.0	0.90	0.00	-0.7	0.0
251 - 350	6	0.11	1.2	22.25	14.6	-0.7	46.0	0.58	.80	-0.8	1.1
MORE THAN 350	3	0.41	1.8	42.83	33.0	61.0	65.6	1.11	.98	-2.1	1.3
*INERTIA WEIGHT											
1800 - 2799	1	-1.12	0.0	5.34	0.0	91.1	0.0	-1.09	0.00	-3.2	0.0
2800 - 3799	5	-0.93	2.9	20.92	19.8	14.1	51.6	0.41	.79	-1.1	1.1
3800 - 4799	5	0.19	1.3	30.40	29.0	30.1	63.2	1.13	.70	-1.3	1.5
4800 - 5799	0										
ALL VEHICLES	11	-0.44	2.1	23.81	23.5	28.4	56.2	0.60	.94	-1.4	1.3

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES--COLD START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	18.0	0.0	30.4	0.0	-6.1	0.0	-21.7	0.0	-6.0	0.0
CHRYSLER	2	19.6	31.4	49.9	49.4	0.2	7.9	42.4	19.3	-14.0	20.3
FORD MOTOR CO.	3	1.2	2.8	30.2	18.5	5.6	9.2	18.3	16.9	-9.8	10.0
GENERAL MOTORS	5	-48.9	53.5	19.5	22.0	8.3	10.9	5.4	42.7	-11.0	9.5
IMPORTS	0										
***MODEL YEAR**											
1968	1	-27.1	0.0	25.4	0.0	17.9	0.0	29.6	0.0	-22.0	0.0
1969	3	-1.2	1.5	16.5	7.8	-3.9	2.5	11.6	25.3	-0.8	1.1
1970	4	-37.2	70.5	25.3	26.2	5.1	10.2	20.7	30.0	-9.3	7.7
1971	2	23.0	26.7	65.1	27.8	3.8	2.8	27.8	40.1	-18.1	14.6
1972	1	-50.5	0.0	11.8	0.0	18.5	0.0	-57.7	0.0	-20.3	0.0
1973	0										
1974	0										
1975	0										
***VEHICLE TYPE**											
AUTOMOBILE	11	-16.7	47.4	29.0	25.3	4.8	9.6	13.2	34.0	-10.7	10.1
TRUCK	0										
***VEHICLE OWNER**											
GSA	1	4.1	0.0	45.5	0.0	1.8	0.0	-0.6	0.0	-7.8	0.0
PRIVATE OWNER	10	-18.8	49.4	27.3	26.0	5.1	10.1	14.6	35.5	-11.0	10.6
***CONTROL OPTIONS(CONVERTER.AIR PUMP)**											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	-54.4	60.1	18.1	25.1	5.9	10.9	-0.6	46.8	-8.2	8.3
NO CNV/NO APMP	7	4.8	21.1	35.2	25.0	4.1	9.7	21.1	25.1	-12.2	11.4
***DISPLACEMENT**											
LESS THAN 151	1	-50.5	0.0	11.8	0.0	18.5	0.0	-57.7	0.0	-20.3	0.0
151 - 250	1	-139.0	0.0	-12.3	0.0	11.2	0.0	48.4	0.0	-3.6	0.0
251 - 350	6	-2.2	15.0	27.2	13.9	-0.4	8.4	11.5	24.3	-6.0	7.7
MORE THAN 350	3	6.3	34.5	51.9	30.2	8.5	8.4	28.4	28.3	-19.4	10.5
***INERTIA WEIGHT**											
1800 - 2799	1	-50.5	0.0	11.8	0.0	18.5	0.0	-57.7	0.0	-20.3	0.0
2800 - 3799	5	-29.7	63.4	25.3	22.7	3.0	10.0	13.1	31.1	-7.8	7.4
3800 - 4799	5	3.0	24.8	36.1	30.5	3.8	8.9	27.5	20.2	-11.7	12.9
4800 - 5799	0										
ALL VEHICLES	11	-16.7	47.4	29.0	25.3	4.8	9.6	13.2	34.0	-10.7	10.1

AUTOMOTIVE TESTING LABORATORIES, INC.
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EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES--COLD START DATA)
(PARA ADJ/DEVICE-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	10.33	0.0	108.74	0.0	584.9	0.0	1.85	0.00	11.2	0.0
CHRYSLER	2	5.64	3.3	51.46	52.4	535.0	29.9	2.14	1.04	14.1	1.4
FORD MOTOR CO.	3	5.74	1.7	43.47	27.9	582.0	126.9	3.38	.43	13.7	3.1
GENERAL MOTORS	5	6.56	2.3	48.35	14.2	463.5	107.4	2.53	1.09	16.4	3.2
IMPORTS	0										
*MODEL YEAR											
1968	1	6.15	0.0	52.02	0.0	623.3	0.0	3.66	0.00	12.2	0.0
1969	3	7.73	0.3	77.30	10.0	520.6	30.6	3.26	.43	13.3	0.7
1970	4	7.81	2.6	52.26	39.6	464.1	100.8	1.90	.79	16.2	3.6
1971	2	3.87	0.8	25.53	15.8	638.4	116.3	2.46	1.48	13.1	2.7
1972	1	3.34	0.0	39.77	0.0	400.1	0.0	2.98	0.00	18.8	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	6.51	2.4	53.07	29.3	519.8	105.6	2.63	.95	14.8	3.0
TRUCK	0										
*VEHICLE OWNER											
GSA	1	4.46	0.0	36.68	0.0	720.6	0.0	3.51	0.00	11.2	0.0
PRIVATE OWNER	10	6.72	2.4	54.71	30.4	499.8	86.3	2.54	.95	15.1	2.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	6.66	2.6	47.43	16.3	423.5	68.8	2.25	1.02	17.4	2.5
NO CNV/NO APMP	7	6.43	2.4	56.30	35.6	574.9	80.5	2.85	.91	13.2	2.2
*DISPLACEMENT											
LESS THAN 151	1	3.34	0.0	39.77	0.0	400.1	0.0	2.98	0.00	18.8	0.0
151 - 250	1	9.63	0.0	49.33	0.0	338.4	0.0	0.96	0.00	19.9	0.0
251 - 350	6	7.46	1.8	65.27	33.9	513.3	48.1	2.74	.73	14.2	2.3
MORE THAN 350	3	4.63	1.4	34.36	18.9	633.4	82.7	2.86	1.26	12.8	2.0
*INERTIA WEIGHT											
1800 - 2799	1	3.34	0.0	39.77	0.0	400.1	0.0	2.98	0.00	18.8	0.0
2800 - 3799	5	7.73	2.2	55.65	35.1	470.1	88.3	2.16	.89	15.8	3.3
3800 - 4799	5	5.93	2.0	53.15	29.4	593.6	81.1	3.04	.97	12.9	1.4
4800 - 5799	0										
ALL VEHICLES	11	6.51	2.4	53.07	29.3	519.8	105.6	2.63	.95	14.8	3.0

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EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES--COLD START DATA)
(PARA ADJ/DEVICE-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	-2.52	0.0	-28.02	0.0	-77.5	0.0	0.12	0.00	2.2	0.0
CHRYSLER	2	-0.55	3.5	6.72	51.6	44.2	29.1	0.60	.71	-1.1	2.5
FORD MOTOR CO.	3	1.74	3.1	0.32	15.8	19.3	50.1	0.21	.60	-0.6	1.9
GENERAL MOTORS	5	0.08	2.0	12.22	8.1	15.8	41.4	-0.18	.91	-1.2	1.4
IMPORTS	0										
***MODEL YEAR**											
1968	1	-1.77	0.0	23.36	0.0	-13.4	0.0	-1.76	0.00	-0.3	0.0
1969	3	-0.85	2.1	-11.79	21.7	-15.7	34.1	0.14	.11	0.8	0.6
1970	4	0.72	3.8	-0.30	19.3	21.3	68.0	0.31	.34	-1.2	2.5
1971	2	1.22	1.0	26.63	23.5	51.5	18.7	0.35	1.07	-1.8	1.5
1972	1	1.04	0.0	7.45	0.0	20.0	0.0	0.51	0.00	-1.3	0.0
1973	0										
1974	0										
1975	0										
***VEHICLE TYPE**											
AUTOMOBILE	11	0.18	2.5	4.32	22.0	13.4	48.0	0.10	.74	-0.7	1.8
TRUCK	0										
***VEHICLE OWNER**											
GSA	1	0.50	0.0	10.04	0.0	38.3	0.0	-0.41	0.00	-0.7	0.0
PRIVATE OWNER	10	0.15	2.7	3.75	23.1	10.9	49.8	0.15	.76	-0.7	1.9
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	0.54	2.0	9.44	6.0	23.1	44.0	0.22	.23	-1.4	1.5
NO CNV/NO APMP	7	-0.02	2.9	1.39	27.6	7.9	52.7	0.03	.93	-0.3	1.9
***DISPLACEMENT**											
LESS THAN 151	1	1.04	0.0	7.45	0.0	20.0	0.0	0.51	0.00	-1.3	0.0
151 - 250	1	-2.32	0.0	15.90	0.0	73.5	0.0	0.03	0.00	-3.4	0.0
251 - 350	6	0.44	3.2	-8.75	18.8	-5.9	51.3	0.27	.27	0.1	1.7
MORE THAN 350	3	0.22	1.9	25.54	16.7	29.9	39.7	-0.36	1.43	-1.3	1.4
***INERTIA WEIGHT**											
1800 - 2799	1	1.04	0.0	7.45	0.0	20.0	0.0	0.51	0.00	-1.3	0.0
2800 - 3799	5	0.78	3.3	2.22	17.7	10.4	63.8	0.26	.32	-0.9	2.2
3800 - 4799	5	-0.59	1.9	5.79	29.8	15.1	40.8	-0.14	1.06	-0.4	1.6
4800 - 5799	0										
ALL VEHICLES	11	0.18	2.5	4.32	22.0	13.4	48.0	0.10	.74	-0.7	1.8

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES--COLD START DATA)
(PARA ADJ/DEVICE-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	-32.3	0.0	-34.7	0.0	-15.3	0.0	6.1	0.0	16.5	0.0
CHRYSLER	2	-11.8	69.3	12.2	88.9	7.4	4.3	23.6	28.6	-9.3	20.1
FORD MOTOR CO.	3	17.8	30.5	6.9	33.9	2.9	9.2	4.9	17.4	-4.7	13.5
GENERAL MOTORS	5	-1.6	32.1	18.5	9.5	3.9	9.5	-12.0	45.4	-7.3	8.3
IMPORTS	0										
*MODEL YEAR											
1968	1	-40.4	0.0	31.0	0.0	-2.2	0.0	-92.6	0.0	-2.4	0.0
1969	3	-18.8	37.8	-22.5	33.9	-3.4	6.7	3.8	2.5	5.4	4.1
1970	4	3.8	42.4	6.7	29.6	5.0	14.3	10.9	8.2	-7.2	16.6
1971	2	23.6	19.2	48.3	37.9	7.7	3.8	15.3	40.3	-15.3	11.7
1972	1	23.7	0.0	15.8	0.0	4.8	0.0	14.6	0.0	-7.4	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	-1.0	36.1	9.3	36.0	2.5	9.6	0.7	34.1	-4.8	12.5
TRUCK	0										
*VEHICLE OWNER											
GSA	1	10.1	0.0	21.5	0.0	5.0	0.0	-13.2	0.0	-7.0	0.0
PRIVATE OWNER	10	-2.1	37.9	8.1	37.7	2.3	10.1	2.1	35.6	-4.6	13.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	8.0	27.3	15.4	7.4	5.5	10.3	8.1	6.8	-8.6	9.1
NO CNV/NO APMP	7	-6.1	41.4	5.9	45.8	0.8	9.6	-3.5	43.1	-2.7	14.4
*DISPLACEMENT											
LESS THAN 151	1	23.7	0.0	15.8	0.0	4.8	0.0	14.6	0.0	-7.4	0.0
151 - 250	1	-31.7	0.0	24.4	0.0	17.8	0.0	3.0	0.0	-20.4	0.0
251 - 350	6	-1.6	40.9	-10.8	32.6	-1.3	10.1	8.7	7.4	1.3	12.1
MORE THAN 350	3	2.3	39.4	42.5	28.6	4.4	6.3	-20.7	68.5	-11.0	11.1
*INERTIA WEIGHT											
1800 - 2799	1	23.7	0.0	15.8	0.0	4.8	0.0	14.6	0.0	-7.4	0.0
2800 - 3799	5	5.5	36.9	8.4	25.9	2.5	13.5	9.1	8.2	-5.5	15.0
3800 - 4799	5	-12.4	39.1	9.0	50.6	2.1	6.9	-10.4	50.5	-3.7	12.9
4800 - 5799	0										
ALL VEHICLES	11	-1.0	36.1	9.3	36.0	2.5	9.6	0.7	34.1	-4.8	12.5

APPENDIX E

TABLES OF TEST RESULTS

DATA SET 1 PAGE E-2
DATA SET 2 PAGE E-14
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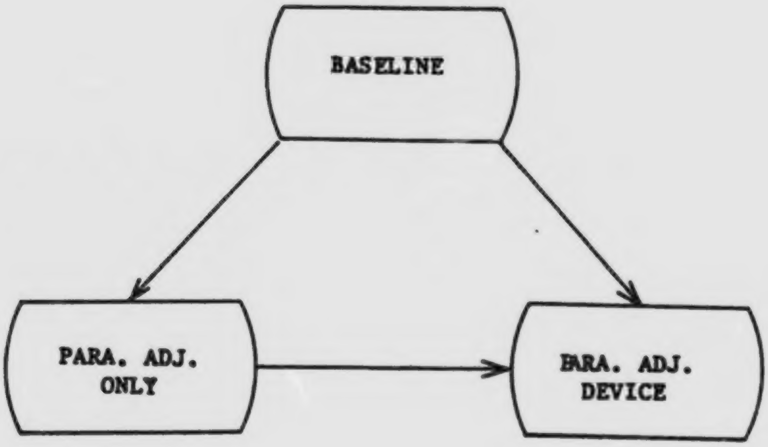
1973-1974 VEHICLES

DATA SET 1
3 VEHICLES


BASELINE
PARA. ADJ. ONLY
PARA. ADJ. DEVICE

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	4.58	0.0	72.11	0.0	587.7	0.0	1.66	0.00	12.4	0.0
CHRYSLER	2	3.72	0.3	75.03	18.5	490.9	179.4	1.52	.31	15.2	5.1
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	2	4.25	0.5	80.11	11.3	602.7	21.3	1.70	.06	12.0	0.6
1974	1	3.52	0.0	61.94	0.0	364.1	0.0	1.30	0.00	18.8	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	3	4.01	0.5	74.06	13.2	523.2	138.6	1.57	.23	14.2	4.0
TRUCK	0										
*VEHICLE OWNER											
GSA	3	4.01	0.5	74.06	13.2	523.2	138.6	1.57	.23	14.2	4.0
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	1	4.58	0.0	72.11	0.0	587.7	0.0	1.66	0.00	12.4	0.0
NO CNV/NO APMP	2	3.72	0.3	75.03	18.5	490.9	179.4	1.52	.31	15.2	5.1
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	1	3.52	0.0	61.94	0.0	364.1	0.0	1.30	0.00	18.8	0.0
251 - 350	0										
MORE THAN 350	2	4.25	0.5	80.11	11.3	602.7	21.3	1.70	.06	12.0	0.6
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	1	3.52	0.0	61.94	0.0	364.1	0.0	1.30	0.00	18.8	0.0
3800 - 4799	2	4.25	0.5	80.11	11.3	602.7	21.3	1.70	.06	12.0	0.6
4800 - 5799	0										
ALL VEHICLES	3	4.01	0.5	74.06	13.2	523.2	138.6	1.57	.23	14.2	4.0

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(PARAMETRIC ADJ.)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	4.70	0.0	28.57	0.0	589.9	0.0	2.17	0.00	13.7	0.0
CHRYSLER	2	3.03	0.5	43.36	2.2	492.3	193.1	1.80	.71	16.5	5.4
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	2	3.69	1.4	35.19	9.4	609.4	27.6	2.23	.09	13.1	0.7
1974	1	3.37	0.0	44.92	0.0	355.8	0.0	1.30	0.00	20.3	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	3	3.59	1.0	38.43	8.7	524.9	147.7	1.92	.54	15.5	4.2
TRUCK	0										
*VEHICLE OWNER											
	3	3.59	1.0	38.43	8.7	524.9	147.7	1.92	.54	15.5	4.2
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	1	4.70	0.0	28.57	0.0	589.9	0.0	2.17	0.00	13.7	0.0
NO CNV/NO APMP	2	3.03	0.5	43.36	2.2	492.3	193.1	1.80	.71	16.5	5.4
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	1	3.37	0.0	44.92	0.0	355.8	0.0	1.30	0.00	20.3	0.0
251 - 350	0										
MORE THAN 350	2	3.69	1.4	35.19	9.4	609.4	27.6	2.23	.09	13.1	0.7
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	1	3.37	0.0	44.92	0.0	355.8	0.0	1.30	0.00	20.3	0.0
3800 - 4799	2	3.69	1.4	35.19	9.4	609.4	27.6	2.23	.09	13.1	0.7
4800 - 5799	0										
ALL VEHICLES	3	3.59	1.0	38.43	8.7	524.9	147.7	1.92	.54	15.5	4.2

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--PARAMETRIC ADJ.)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	4.70	0.0	28.57	0.0	589.9	0.0	2.17	0.00	13.7	0.0
CHRYSLER	2	3.03	0.5	43.36	2.2	492.3	193.1	1.80	.71	16.5	5.4
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	2	3.69	1.4	35.19	9.4	609.4	27.6	2.23	.09	13.1	0.7
1974	1	3.37	0.0	44.92	0.0	355.8	0.0	1.30	0.00	20.3	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	3	3.59	1.0	38.43	8.7	524.9	147.7	1.92	.54	15.5	4.2
TRUCK	0										
*VEHICLE OWNER											
GSA	3	3.59	1.0	38.43	8.7	524.9	147.7	1.92	.54	15.5	4.2
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	1	4.70	0.0	28.57	0.0	589.9	0.0	2.17	0.00	13.7	0.0
NO CNV/NO APMP	2	3.03	0.5	43.36	2.2	492.3	193.1	1.80	.71	16.5	5.4
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	1	3.37	0.0	44.92	0.0	355.8	0.0	1.30	0.00	20.3	0.0
251 - 350	0										
MORE THAN 350	2	3.69	1.4	35.19	9.4	609.4	27.6	2.23	.09	13.1	0.7
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	1	3.37	0.0	44.92	0.0	355.8	0.0	1.30	0.00	20.3	0.0
3800 - 4799	2	3.69	1.4	35.19	9.4	609.4	27.6	2.23	.09	13.1	0.7
4800 - 5799	0										
ALL VEHICLES	3	3.59	1.0	38.43	8.7	524.9	147.7	1.92	.54	15.5	4.2

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--PARAMETRIC ADJ.)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	-0.12	0.0	43.54	0.0	-2.2	0.0	-0.51	0.00	-1.3	0.0
CHRYSLER	2	0.69	0.8	31.66	20.7	-1.4	13.7	-0.28	.40	-1.3	0.3
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	2	0.56	1.0	44.92	2.0	-6.6	6.3	-0.54	.04	-1.2	0.1
1974	1	0.15	0.0	17.02	0.0	8.3	0.0	0.00	0.00	-1.5	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	3	0.42	0.7	35.62	16.2	-1.7	9.7	-0.36	.31	-1.3	0.2
TRUCK	0										
*VEHICLE OWNER											
GSA	3	0.42	0.7	35.62	16.2	-1.7	9.7	-0.36	.31	-1.3	0.2
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	1	-0.12	0.0	43.54	0.0	-2.2	0.0	-0.51	0.00	-1.3	0.0
NO CNV/NO APMP	2	0.69	0.8	31.66	20.7	-1.4	13.7	-0.28	.40	-1.3	0.3
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	1	0.15	0.0	17.02	0.0	8.3	0.0	0.00	0.00	-1.5	0.0
251 - 350	0										
MORE THAN 350	2	0.56	1.0	44.92	2.0	-6.6	6.3	-0.54	.04	-1.2	0.1
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	1	0.15	0.0	17.02	0.0	8.3	0.0	0.00	0.00	-1.5	0.0
3800 - 4799	2	0.56	1.0	44.92	2.0	-6.6	6.3	-0.54	.04	-1.2	0.1
4800 - 5799	0										
ALL VEHICLES	3	0.42	0.7	35.62	16.2	-1.7	9.7	-0.36	.31	-1.3	0.2

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--PARAMETRIC ADJ.)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	-2.6	0.0	60.4	0.0	-0.4	0.0	-30.7	0.0	-10.2	0.0
CHRYSLER	2	17.8	19.2	40.0	17.7	0.2	2.9	-16.1	22.8	-8.7	0.8
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	0										
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	2	14.4	24.0	56.5	5.5	-1.1	1.0	-31.5	1.0	-9.7	0.6
1974	1	4.3	0.0	27.5	0.0	2.3	0.0	0.0	0.0	-8.1	0.0
1975	0										
***VEHICLE TYPE**											
AUTOMOBILE	3	11.0	18.0	46.8	17.2	0.0	2.1	-21.0	18.2	-9.2	1.0
TRUCK	0										
***VEHICLE OWNER**											
GSA	3	11.0	18.0	46.8	17.2	0.0	2.1	-21.0	18.2	-9.2	1.0
PRIVATE OWNER	0										
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	1	-2.6	0.0	60.4	0.0	-0.4	0.0	-30.7	0.0	-10.2	0.0
NO CNV/NO APMP	2	17.8	19.2	40.0	17.7	0.2	2.9	-16.1	22.8	-8.7	0.8
***DISPLACEMENT**											
LESS THAN 151	0										
151 - 250	1	4.3	0.0	27.5	0.0	2.3	0.0	0.0	0.0	-8.1	0.0
251 - 350	0										
MORE THAN 350	2	14.4	24.0	56.5	5.5	-1.1	1.0	-31.5	1.0	-9.7	0.6
***INERTIA WEIGHT**											
1800 - 2799	0										
2800 - 3799	1	4.3	0.0	27.5	0.0	2.3	0.0	0.0	0.0	-8.1	0.0
3800 - 4799	2	14.4	24.0	56.5	5.5	-1.1	1.0	-31.5	1.0	-9.7	0.6
4800 - 5799	0										
ALL VEHICLES	3	11.0	18.0	46.8	17.2	0.0	2.1	-21.0	18.2	-9.2	1.0

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE-PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	4.31	0.0	21.47	0.0	610.5	0.0	2.54	0.00	13.5	0.0
CHRYSLER	2	2.85	0.3	39.77	0.4	496.1	190.7	2.20	.57	16.5	5.5
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	2	3.47	1.2	30.46	12.7	620.7	14.5	2.57	.04	13.1	0.6
1974	1	3.08	0.0	40.09	0.0	361.3	0.0	1.80	0.00	20.4	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	3	3.34	0.9	33.67	10.6	534.3	150.1	2.31	.45	15.5	4.3
TRUCK	0										
*VEHICLE OWNER											
GSA	3	3.34	0.9	33.67	10.6	534.3	150.1	2.31	.45	15.5	4.3
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	1	4.31	0.0	21.47	0.0	610.5	0.0	2.54	0.00	13.5	0.0
NO CNV/NO APMP	2	2.85	0.3	39.77	0.4	496.1	190.7	2.20	.57	16.5	5.5
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	1	3.08	0.0	40.09	0.0	361.3	0.0	1.80	0.00	20.4	0.0
251 - 350	0										
MORE THAN 350	2	3.47	1.2	30.46	12.7	620.7	14.5	2.57	.04	13.1	0.6
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	1	3.08	0.0	40.09	0.0	361.3	0.0	1.80	0.00	20.4	0.0
3800 - 4799	2	3.47	1.2	30.46	12.7	620.7	14.5	2.57	.04	13.1	0.6
4800 - 5799	0										
ALL VEHICLES	3	3.34	0.9	33.67	10.6	534.3	150.1	2.31	.45	15.5	4.3

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE-PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	0.27	0.0	50.64	0.0	-22.8	0.0	-0.88	0.00	-1.1	0.0
CHRYSLER	2	0.87	0.6	35.25	19.0	-5.2	11.3	-0.68	.25	-1.4	0.4
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	2	0.78	0.7	49.65	1.4	-18.0	6.8	-0.87	.01	-1.1	0.0
1974	1	0.44	0.0	21.85	0.0	2.8	0.0	-0.50	0.00	-1.7	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	3	0.67	0.5	40.38	16.1	-11.1	12.9	-0.75	.21	-1.3	0.3
TRUCK	0										
*VEHICLE OWNER											
GSA	3	0.67	0.5	40.38	16.1	-11.1	12.9	-0.75	.21	-1.3	0.3
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	1	0.27	0.0	50.64	0.0	-22.8	0.0	-0.88	0.00	-1.1	0.0
NO CNV/NO APMP	2	0.87	0.6	35.25	19.0	-5.2	11.3	-0.68	.25	-1.4	0.4
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	1	0.44	0.0	21.85	0.0	2.8	0.0	-0.50	0.00	-1.7	0.0
251 - 350	0										
MORE THAN 350	2	0.78	0.7	49.65	1.4	-18.0	6.8	-0.87	.01	-1.1	0.0
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	1	0.44	0.0	21.85	0.0	2.8	0.0	-0.50	0.00	-1.7	0.0
3800 - 4799	2	0.78	0.7	49.65	1.4	-18.0	6.8	-0.87	.01	-1.1	0.0
4800 - 5799	0										
ALL VEHICLES	3	0.67	0.5	40.38	16.1	-11.1	12.9	-0.75	.21	-1.3	0.3

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE-PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	5.9	0.0	70.2	0.0	-3.9	0.0	-53.0	0.0	-8.8	0.0
CHRYSLER	2	22.7	14.4	45.2	14.1	-0.7	2.1	-43.9	7.8	-9.2	0.4
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	2	19.4	19.1	62.7	10.6	-3.0	1.2	-51.2	2.5	-9.2	0.5
1974	1	12.5	0.0	35.3	0.0	0.8	0.0	-38.5	0.0	-8.9	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	3	17.1	14.1	53.6	17.5	-1.7	2.3	-47.0	7.6	-9.1	0.4
TRUCK	0										
*VEHICLE OWNER											
GSA	3	17.1	14.1	53.6	17.5	-1.7	2.3	-47.0	7.6	-9.1	0.4
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	1	5.9	0.0	70.2	0.0	-3.9	0.0	-53.0	0.0	-8.8	0.0
NO CNV/NO APMP	2	22.7	14.4	45.2	14.1	-0.7	2.1	-43.9	7.8	-9.2	0.4
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	1	12.5	0.0	35.3	0.0	0.8	0.0	-38.5	0.0	-8.9	0.0
251 - 350	0										
MORE THAN 350	2	19.4	19.1	62.7	10.6	-3.0	1.2	-51.2	2.5	-9.2	0.5
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	1	12.5	0.0	35.3	0.0	0.8	0.0	-38.5	0.0	-8.9	0.0
3800 - 4799	2	19.4	19.1	62.7	10.6	-3.0	1.2	-51.2	2.5	-9.2	0.5
4800 - 5799	0										
ALL VEHICLES	3	17.1	14.1	53.6	17.5	-1.7	2.3	-47.0	7.6	-9.1	0.4

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(PARAMETRIC ADJ.-PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	4.31	0.0	21.47	0.0	610.5	0.0	2.54	0.00	13.5	0.0
CHRYSLER	2	2.85	0.3	39.77	0.4	496.1	190.7	2.20	.57	16.5	5.5
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	2	3.47	1.2	30.46	12.7	620.7	14.5	2.57	.04	13.1	0.6
1974	1	3.08	0.0	40.09	0.0	361.3	0.0	1.80	0.00	20.4	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	3	3.34	0.9	33.67	10.6	534.3	150.1	2.31	.45	15.5	4.3
TRUCK	0										
*VEHICLE OWNER											
GSA	3	3.34	0.9	33.67	10.6	534.3	150.1	2.31	.45	15.5	4.3
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	1	4.31	0.0	21.47	0.0	610.5	0.0	2.54	0.00	13.5	0.0
NO CNV/NO APMP	2	2.85	0.3	39.77	0.4	496.1	190.7	2.20	.57	16.5	5.5
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	1	3.08	0.0	40.09	0.0	361.3	0.0	1.80	0.00	20.4	0.0
251 - 350	0										
MORE THAN 350	2	3.47	1.2	30.46	12.7	620.7	14.5	2.57	.04	13.1	0.6
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	1	3.08	0.0	40.09	0.0	361.3	0.0	1.80	0.00	20.4	0.0
3800 - 4799	2	3.47	1.2	30.46	12.7	620.7	14.5	2.57	.04	13.1	0.6
4800 - 5799	0										
ALL VEHICLES	3	3.34	0.9	33.67	10.6	534.3	150.1	2.31	.45	15.5	4.3

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(PARAMETRIC ADJ.-PARA ADJ/DEVICE)

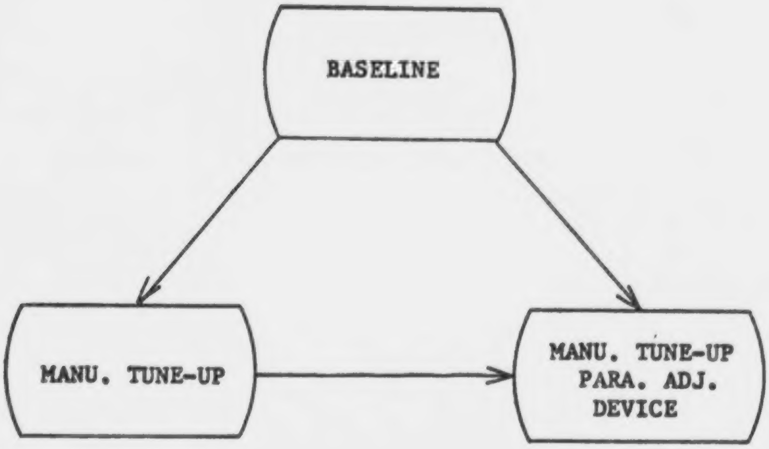
	# OF VEH.	HC MEAN	HC S.D.	CO MEAN	CO S.D.	CO2 MEAN	CO2 S.D.	NOX MEAN	NOX S.D.	MPG MEAN	MPG S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	0.39	0.0	7.10	0.0	-20.6	0.0	-0.37	0.00	0.2	0.0
CHRYSLER	2	0.17	0.2	3.59	1.8	-3.8	2.4	-0.40	.14	-0.1	0.1
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	2	0.22	0.2	4.72	3.4	-11.4	13.1	-0.34	.05	0.1	0.1
1974	1	0.29	0.0	4.83	0.0	-5.5	0.0	-0.50	0.00	-0.1	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	3	0.25	0.2	4.76	2.4	-9.4	9.8	-0.39	.10	0.0	0.2
TRUCK	0										
*VEHICLE OWNER											
GSA	3	0.25	0.2	4.76	2.4	-9.4	9.8	-0.39	.10	0.0	0.2
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	1	0.39	0.0	7.10	0.0	-20.6	0.0	-0.37	0.00	0.2	0.0
NO CNV/NO APMP	2	0.17	0.2	3.59	1.8	-3.8	2.4	-0.40	.14	-0.1	0.1
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	1	0.29	0.0	4.83	0.0	-5.5	0.0	-0.50	0.00	-0.1	0.0
251 - 350	0										
MORE THAN 350	2	0.22	0.2	4.72	3.4	-11.4	13.1	-0.34	.05	0.1	0.1
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	1	0.29	0.0	4.83	0.0	-5.5	0.0	-0.50	0.00	-0.1	0.0
3800 - 4799	2	0.22	0.2	4.72	3.4	-11.4	13.1	-0.34	.05	0.1	0.1
4800 - 5799	0										
ALL VEHICLES	3	0.25	0.2	4.76	2.4	-9.4	9.8	-0.39	.10	0.0	0.2

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(PARAMETRIC ADJ.-PARA ADJ/DEVICE)

	# OF VEH.	HC MEAN	HC S.D.	CO MEAN	CO S.D.	CO2 MEAN	CO2 S.D.	NOX MEAN	NOX S.D.	MPG MEAN	MPG S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	8.3	0.0	24.9	0.0	-3.5	0.0	-17.1	0.0	1.2	0.0
CHRYSLER	2	5.4	4.5	8.2	3.6	-0.9	0.9	-25.8	18.0	-0.5	0.3
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	2	5.3	4.3	15.2	13.6	-1.9	2.2	-15.0	2.8	0.5	1.0
1974	1	8.6	0.0	10.8	0.0	-1.5	0.0	-38.5	0.0	-0.7	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	3	6.4	3.6	13.7	10.0	-1.8	1.6	-22.9	13.7	0.1	1.0
TRUCK	0										
*VEHICLE OWNER											
GSA	3	6.4	3.6	13.7	10.0	-1.8	1.6	-22.9	13.7	0.1	1.0
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	1	8.3	0.0	24.9	0.0	-3.5	0.0	-17.1	0.0	1.2	0.0
NO CNV/NO APMP	2	5.4	4.5	8.2	3.6	-0.9	0.9	-25.8	18.0	-0.5	0.3
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	1	8.6	0.0	10.8	0.0	-1.5	0.0	-38.5	0.0	-0.7	0.0
251 - 350	0										
MORE THAN 350	2	5.3	4.3	15.2	13.6	-1.9	2.2	-15.0	2.8	0.5	1.0
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	1	8.6	0.0	10.8	0.0	-1.5	0.0	-38.5	0.0	-0.7	0.0
3800 - 4799	2	5.3	4.3	15.2	13.6	-1.9	2.2	-15.0	2.8	0.5	1.0
4800 - 5799	0										
ALL VEHICLES	3	6.4	3.6	13.7	10.0	-1.8	1.6	-22.9	13.7	0.1	1.0

1973-1974 VEHICLES

DATA SET 2
6 VEHICLES


BASELINE
MANU. TUNE-UP
MANU. TUNE-UP
PARA. ADJ.
DEVICE

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE)

	# OF VEH.	HC MEAN	HC S.D.	CO MEAN	CO S.D.	CO2 MEAN	CO2 S.D.	NOX MEAN	NOX S.D.	MPG MEAN	MPG S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	4.92	0.0	67.08	0.0	590.5	0.0	3.41	0.00	12.5	0.0
CHRYSLER	2	2.98	0.7	57.61	19.2	509.6	236.8	2.59	1.37	15.4	5.2
FORD MOTOR CO.	1	3.40	0.0	97.95	0.0	346.4	0.0	0.74	0.00	17.4	0.0
GENERAL MOTORS	0										
IMPORTS	2	3.43	0.9	68.70	3.1	269.1	72.0	1.19	1.00	23.3	4.2
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	2	3.70	1.7	55.55	16.3	633.8	61.2	3.48	.11	12.1	0.5
1974	4	3.44	0.5	76.63	14.4	306.7	60.1	1.19	.68	20.7	3.9
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	3.53	0.9	69.61	17.2	415.7	177.3	1.95	1.30	17.9	5.4
TRUCK	0										
*VEHICLE OWNER											
GSA	3	3.63	1.2	60.77	14.6	536.6	173.8	2.86	1.08	14.4	4.0
PRIVATE OWNER	3	3.42	0.7	78.45	17.0	294.9	67.7	1.04	.75	21.3	4.5
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	2	4.16	1.1	82.51	21.8	468.4	172.6	2.07	1.89	14.9	3.5
NO CNV/NO APMP	4	3.21	0.7	63.15	12.9	389.4	199.3	1.89	1.27	19.3	5.9
*DISPLACEMENT											
LESS THAN 151	3	3.42	0.7	78.45	17.0	294.9	67.7	1.04	.75	21.3	4.5
151 - 250	1	3.48	0.0	71.19	0.0	342.2	0.0	1.62	0.00	19.1	0.0
251 - 350	0										
MORE THAN 350	2	3.70	1.7	55.55	16.3	633.8	61.2	3.48	.11	12.1	0.5
*INERTIA WEIGHT											
1800 - 2799	2	3.43	0.9	68.70	3.1	269.1	72.0	1.19	1.00	23.3	4.2
2800 - 3799	2	3.44	0.1	84.57	18.9	344.3	3.0	1.18	.62	18.2	1.2
3800 - 4799	2	3.70	1.7	55.55	16.3	633.8	61.2	3.48	.11	12.1	0.5
4800 - 5799	0										
ALL VEHICLES	6	3.53	0.9	69.61	17.2	415.7	177.3	1.95	1.30	17.9	5.4

AUTOMOTIVE TESTING LABORATORIES,INC.
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EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	3.94	0.0	37.85	0.0	587.8	0.0	3.47	0.00	13.4	0.0
CHRYSLER	2	2.64	0.8	35.75	20.0	502.0	180.7	2.56	.88	16.2	4.2
FORD MOTOR CO.	1	2.06	0.0	78.00	0.0	395.5	0.0	0.57	0.00	16.9	0.0
GENERAL MOTORS	0										
IMPORTS	2	3.62	1.3	62.33	2.1	271.9	87.5	1.23	.98	24.0	6.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	2	3.00	1.3	29.73	11.5	608.8	29.7	3.32	.21	13.3	0.1
1974	4	3.13	1.0	63.14	11.6	328.4	82.9	1.24	.79	21.0	5.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	3.09	1.0	52.00	20.1	421.9	159.0	1.94	1.24	18.5	5.5
TRUCK	0										
*VEHICLE OWNER											
GSA	3	3.07	0.9	36.45	14.2	530.6	137.1	2.86	.82	15.3	3.4
PRIVATE OWNER	3	3.10	1.3	67.56	9.2	313.1	94.4	1.01	.79	21.6	5.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	2	3.00	1.3	57.93	28.4	491.6	136.0	2.02	2.05	15.2	2.5
NO CNV/NO APMP	4	3.13	1.0	49.04	19.2	387.0	176.3	1.89	1.08	20.1	6.2
*DISPLACEMENT											
LESS THAN 151	3	3.10	1.3	67.56	9.2	313.1	94.4	1.01	.79	21.6	5.9
151 - 250	1	3.21	0.0	49.89	0.0	374.2	0.0	1.93	0.00	19.2	0.0
251 - 350	0										
MORE THAN 350	2	3.00	1.3	29.73	11.5	608.8	29.7	3.32	.21	13.3	0.1
*INERTIA WEIGHT											
1800 - 2799	2	3.62	1.3	62.33	2.1	271.9	87.5	1.23	.98	24.0	6.0
2800 - 3799	2	2.64	0.8	63.94	19.9	384.8	15.1	1.25	.96	18.0	1.6
3800 - 4799	2	3.00	1.3	29.73	11.5	608.8	29.7	3.32	.21	13.3	0.1
4800 - 5799	0										
ALL VEHICLES	6	3.09	1.0	52.00	20.1	421.9	159.0	1.94	1.24	18.5	5.5

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	3.94	0.0	37.85	0.0	587.8	0.0	3.47	0.00	13.4	0.0
CHRYSLER	2	2.64	0.8	35.75	20.0	502.0	180.7	2.56	.88	16.2	4.2
FORD MOTOR CO.	1	2.06	0.0	78.00	0.0	395.5	0.0	0.57	0.00	16.9	0.0
GENERAL MOTORS	0										
IMPORTS	2	3.62	1.3	62.33	2.1	271.9	87.5	1.23	.98	24.0	6.0
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	2	3.00	1.3	29.73	11.5	608.8	29.7	3.32	.21	13.3	0.1
1974	4	3.13	1.0	63.14	11.6	328.4	82.9	1.24	.79	21.0	5.0
1975	0										
***VEHICLE TYPE**											
AUTOMOBILE	6	3.09	1.0	52.00	20.1	421.9	159.0	1.94	1.24	18.5	5.5
TRUCK	0										
***VEHICLE OWNER**											
GSA	3	3.07	0.9	36.45	14.2	530.6	137.1	2.86	.82	15.3	3.4
PRIVATE OWNER	3	3.10	1.3	67.56	9.2	313.1	94.4	1.01	.79	21.6	5.9
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	2	3.00	1.3	57.93	28.4	491.6	136.0	2.02	2.05	15.2	2.5
NO CNV/NO APMP	4	3.13	1.0	49.04	19.2	387.0	176.3	1.89	1.08	20.1	6.2
***DISPLACEMENT**											
LESS THAN 151	3	3.10	1.3	67.56	9.2	313.1	94.4	1.01	.79	21.6	5.9
151 - 250	1	3.21	0.0	49.89	0.0	374.2	0.0	1.93	0.00	19.2	0.0
251 - 350	0										
MORE THAN 350	2	3.00	1.3	29.73	11.5	608.8	29.7	3.32	.21	13.3	0.1
***INERTIA WEIGHT**											
1800 - 2799	2	3.62	1.3	62.33	2.1	271.9	87.5	1.23	.98	24.0	6.0
2800 - 3799	2	2.64	0.8	63.94	19.9	384.8	15.1	1.25	.96	18.0	1.6
3800 - 4799	2	3.00	1.3	29.73	11.5	608.8	29.7	3.32	.21	13.3	0.1
4800 - 5799	0										
ALL VEHICLES	6	3.09	1.0	52.00	20.1	421.9	159.0	1.94	1.24	18.5	5.5

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	0.98	0.0	29.23	0.0	2.7	0.0	-0.06	0.00	-1.0	0.0
CHRYSLER	2	0.34	0.1	21.86	0.8	7.7	56.1	0.03	.49	-0.8	1.0
FORD MOTOR CO.	1	1.34	0.0	19.95	0.0	-49.1	0.0	0.17	0.00	0.4	0.0
GENERAL MOTORS	0										
IMPORTS	2	-0.19	0.4	6.36	5.1	-2.9	15.5	-0.04	.01	-0.8	1.8
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	2	0.70	0.4	25.82	4.8	25.0	31.5	0.16	.31	-1.2	0.3
1974	4	0.31	0.7	13.49	8.8	-21.7	24.5	-0.06	.20	-0.3	1.2
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	0.44	0.6	17.60	9.6	-6.1	33.8	0.02	.23	-0.6	1.0
TRUCK	0										
*VEHICLE OWNER											
GSA	3	0.56	0.4	24.32	4.3	6.0	39.8	0.00	.35	-0.8	0.7
PRIVATE OWNER	3	0.32	0.9	10.89	8.6	-18.3	28.9	0.03	.12	-0.4	1.4
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	2	1.16	0.3	24.59	6.6	-23.2	36.6	0.05	.16	-0.3	1.0
NO CNV/NO APMP	4	0.08	0.4	14.11	9.4	2.4	34.1	-0.00	.29	-0.8	1.2
*DISPLACEMENT											
LESS THAN 151	3	0.32	0.9	10.89	8.6	-18.3	28.9	0.03	.12	-0.4	1.4
151 - 250	1	0.27	0.0	21.30	0.0	-32.0	0.0	-0.31	0.00	-0.1	0.0
251 - 350	0										
MORE THAN 350	2	0.70	0.4	25.82	4.8	25.0	31.5	0.16	.31	-1.2	0.3
*INERTIA WEIGHT											
1800 - 2799	2	-0.19	0.4	6.36	5.1	-2.9	15.5	-0.04	.01	-0.8	1.8
2800 - 3799	2	0.80	0.8	20.62	1.0	-40.6	12.1	-0.07	.34	0.2	0.4
3800 - 4799	2	0.70	0.4	25.82	4.8	25.0	31.5	0.16	.31	-1.2	0.3
4800 - 5799	0										
ALL VEHICLES	6	0.44	0.6	17.60	9.6	-6.1	33.8	0.02	.23	-0.6	1.0

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	19.9	0.0	43.6	0.0	0.5	0.0	-1.8	0.0	-7.9	0.0
CHRYSLER	2	12.3	6.4	40.4	14.8	-1.2	11.6	-4.2	21.1	-6.5	8.5
FORD MOTOR CO.	1	39.4	0.0	20.4	0.0	-14.2	0.0	23.0	0.0	2.5	0.0
GENERAL MOTORS	0										
IMPORTS	2	-4.3	9.1	9.1	7.1	-0.3	5.7	-5.9	6.1	-2.6	7.1
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	2	18.4	2.2	47.2	5.2	3.7	4.6	4.5	8.8	-10.2	3.3
1974	4	9.6	21.3	17.1	10.8	-6.0	7.6	-2.0	18.1	-0.8	4.8
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	12.6	17.1	27.2	17.8	-2.8	8.0	0.2	14.9	-3.9	6.3
TRUCK	0										
*VEHICLE OWNER											
GSA	3	14.8	6.3	41.5	10.7	-0.6	8.2	-3.4	15.0	-7.0	6.0
PRIVATE OWNER	3	10.3	26.1	12.9	8.2	-4.9	9.0	3.7	17.2	-0.9	5.8
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	2	29.7	13.8	32.0	16.4	-6.9	10.3	10.6	17.5	-2.7	7.3
NO CNV/NO APMP	4	4.0	11.6	24.8	20.4	-0.7	7.4	-5.1	12.7	-4.6	6.8
*DISPLACEMENT											
LESS THAN 151	3	10.3	26.1	12.9	8.2	-4.9	9.0	3.7	17.2	-0.9	5.8
151 - 250	1	7.8	0.0	29.9	0.0	-9.4	0.0	-19.1	0.0	-0.5	0.0
251 - 350	0										
MORE THAN 350	2	18.4	2.2	47.2	5.2	3.7	4.6	4.5	8.8	-10.2	3.3
*INERTIA WEIGHT											
1800 - 2799	2	-4.3	9.1	9.1	7.1	-0.3	5.7	-5.9	6.1	-2.6	7.1
2800 - 3799	2	23.6	22.4	25.1	6.8	-11.8	3.4	1.9	29.8	1.0	2.2
3800 - 4799	2	18.4	2.2	47.2	5.2	3.7	4.6	4.5	8.8	-10.2	3.3
4800 - 5799	0										
ALL VEHICLES	6	12.6	17.1	27.2	17.8	-2.8	8.0	0.2	14.9	-3.9	6.3

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	4.32	0.0	22.54	0.0	581.2	0.0	4.36	0.00	14.1	0.0
CHRYSLER	2	2.74	0.1	24.49	9.5	485.9	157.8	3.42	.82	17.3	4.6
FORD MOTOR CO.	1	2.75	0.0	67.95	0.0	363.9	0.0	1.29	0.00	18.5	0.0
GENERAL MOTORS	0										
IMPORTS	2	3.37	1.3	37.99	1.4	281.8	82.7	2.06	1.48	25.9	6.2
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	2	3.49	1.2	20.16	3.4	589.3	11.5	4.18	.25	14.0	0.1
1974	4	3.08	0.8	43.78	16.4	325.5	69.5	2.06	1.06	22.7	5.2
1975	0										
***VEHICLE TYPE**											
AUTOMOBILE	6	3.21	0.8	35.91	17.7	413.4	146.6	2.77	1.37	19.8	6.0
TRUCK	0										
***VEHICLE OWNER**											
GSA	3	3.27	0.9	23.84	6.8	517.7	124.4	3.73	.79	16.2	3.7
PRIVATE OWNER	3	3.16	1.0	47.98	17.3	309.2	75.2	1.81	1.14	23.5	6.1
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	2	3.53	1.1	45.24	32.1	472.5	153.7	2.82	2.17	16.3	3.1
NO CNV/NO APMP	4	3.05	0.8	31.24	9.6	383.9	156.4	2.74	1.25	21.6	6.7
***DISPLACEMENT**											
LESS THAN 151	3	3.16	1.0	47.98	17.3	309.2	75.2	1.81	1.14	23.5	6.1
151 - 250	1	2.82	0.0	31.20	0.0	374.3	0.0	2.84	0.00	20.5	0.0
251 - 350	0										
MORE THAN 350	2	3.49	1.2	20.16	3.4	589.3	11.5	4.18	.25	14.0	0.1
***INERTIA WEIGHT**											
1800 - 2799	2	3.37	1.3	37.99	1.4	281.8	82.7	2.06	1.48	25.9	6.2
2800 - 3799	2	2.78	0.0	49.57	26.0	369.1	7.4	2.06	1.10	19.5	1.4
3800 - 4799	2	3.49	1.2	20.16	3.4	589.3	11.5	4.18	.25	14.0	0.1
4800 - 5799	0										
ALL VEHICLES	6	3.21	0.8	35.91	17.7	413.4	146.6	2.77	1.37	19.8	6.0

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	0.60	0.0	44.54	0.0	9.3	0.0	-0.95	0.00	-1.6	0.0
CHRYSLER	2	0.24	0.6	33.12	9.7	23.7	79.0	-0.83	.55	-1.8	0.6
FORD MOTOR CO.	1	0.65	0.0	30.00	0.0	-17.5	0.0	-0.55	0.00	-1.1	0.0
GENERAL MOTORS	0										
IMPORTS	2	0.07	0.4	30.71	1.6	-12.8	10.7	-0.87	.48	-2.7	2.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	2	0.22	0.5	35.40	12.9	44.5	49.7	-0.69	.36	-1.9	0.4
1974	4	0.36	0.4	32.85	4.9	-18.8	11.0	-0.88	.39	-2.0	1.4
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	0.31	0.4	33.70	7.0	2.3	40.4	-0.82	.36	-2.0	1.1
TRUCK	0										
*VEHICLE OWNER											
GSA	3	0.36	0.5	36.93	9.5	18.9	56.5	-0.87	.40	-1.8	0.4
PRIVATE OWNER	3	0.26	0.4	30.47	1.2	-14.3	8.0	-0.76	.39	-2.2	1.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	2	0.63	0.0	37.27	10.3	-4.1	19.0	-0.75	.28	-1.4	0.3
NO CNV/NO APMP	4	0.15	0.4	31.91	5.9	5.5	50.6	-0.85	.42	-2.3	1.3
*DISPLACEMENT											
LESS THAN 151	3	0.26	0.4	30.47	1.2	-14.3	8.0	-0.76	.39	-2.2	1.7
151 - 250	1	0.66	0.0	39.99	0.0	-32.1	0.0	-1.22	0.00	-1.4	0.0
251 - 350	0										
MORE THAN 350	2	0.22	0.5	35.40	12.9	44.5	49.7	-0.69	.36	-1.9	0.4
*INERTIA WEIGHT											
1800 - 2799	2	0.07	0.4	30.71	1.6	-12.8	10.7	-0.87	.48	-2.7	2.0
2800 - 3799	2	0.65	0.0	34.99	7.1	-24.8	10.3	-0.88	.47	-1.3	0.2
3800 - 4799	2	0.22	0.5	35.40	12.9	44.5	49.7	-0.69	.36	-1.9	0.4
4800 - 5799	0										
ALL VEHICLES	6	0.31	0.4	33.70	7.0	2.3	40.4	-0.82	.36	-2.0	1.1

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	12.2	0.0	66.4	0.0	1.6	0.0	-27.9	0.0	-12.9	0.0
CHRYSLER	2	6.1	18.2	57.9	2.4	1.2	14.9	-43.8	44.5	-13.3	8.0
FORD MOTOR CO.	1	19.1	0.0	30.6	0.0	-5.1	0.0	-74.3	0.0	-6.6	0.0
GENERAL MOTORS	0										
IMPORTS	2	3.4	11.4	44.7	0.4	-4.4	2.8	-85.9	31.5	-10.9	6.7
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	2	2.7	13.5	63.0	4.8	6.7	7.2	-20.1	11.0	-15.9	4.3
1974	4	11.2	11.2	44.0	10.5	-5.8	2.9	-80.4	19.3	-9.0	4.5
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	8.4	11.4	50.4	12.9	-1.6	7.5	-60.3	34.9	-11.3	5.3
TRUCK	0										
*VEHICLE OWNER											
GSA	3	8.1	13.4	60.7	5.2	1.3	10.6	-38.5	32.8	-13.2	5.7
PRIVATE OWNER	3	8.7	12.1	40.0	8.1	-4.6	2.0	-82.1	23.2	-9.5	5.3
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	2	15.7	4.9	48.5	25.3	-1.7	4.7	-51.1	32.9	-9.8	4.4
NO CNV/NO APMP	4	4.8	12.5	51.3	7.8	-1.6	9.3	-64.9	39.8	-12.1	6.2
*DISPLACEMENT											
LESS THAN 151	3	8.7	12.1	40.0	8.1	-4.6	2.0	-82.1	23.2	-9.5	5.3
151 - 250	1	19.0	0.0	56.2	0.0	-9.4	0.0	-75.3	0.0	-7.6	0.0
251 - 350	0										
MORE THAN 350	2	2.7	13.5	63.0	4.8	6.7	7.2	-20.1	11.0	-15.9	4.3
*INERTIA WEIGHT											
1800 - 2799	2	3.4	11.4	44.7	0.4	-4.4	2.8	-85.9	31.5	-10.9	6.7
2800 - 3799	2	19.0	0.1	43.4	18.1	-7.2	3.1	-74.8	0.7	-7.1	0.7
3800 - 4799	2	2.7	13.5	63.0	4.8	6.7	7.2	-20.1	11.0	-15.9	4.3
4800 - 5799	0										
ALL VEHICLES	6	8.4	11.4	50.4	12.9	-1.6	7.5	-60.3	34.9	-11.3	5.3

AUTOMOTIVE TESTING LABORATORIES,INC.
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EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	4.32	0.0	22.54	0.0	581.2	0.0	4.36	0.00	14.1	0.0
CHRYSLER	2	2.74	0.1	24.49	9.5	485.9	157.8	3.42	.82	17.3	4.6
FORD MOTOR CO.	1	2.75	0.0	67.95	0.0	363.9	0.0	1.29	0.00	18.5	0.0
GENERAL MOTORS	0										
IMPORTS	2	3.37	1.3	37.99	1.4	281.8	82.7	2.06	1.48	25.9	6.2
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	2	3.49	1.2	20.16	3.4	589.3	11.5	4.18	.25	14.0	0.1
1974	4	3.08	0.8	43.78	16.4	325.5	69.5	2.06	1.06	22.7	5.2
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	3.21	0.8	35.91	17.7	413.4	146.6	2.77	1.37	19.8	6.0
TRUCK	0										
*VEHICLE OWNER											
GSA	3	3.27	0.9	23.84	6.8	517.7	124.4	3.73	.79	16.2	3.7
PRIVATE OWNER	3	3.16	1.0	47.98	17.3	309.2	75.2	1.81	1.14	23.5	6.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	2	3.53	1.1	45.24	32.1	472.5	153.7	2.82	2.17	16.3	3.1
NO CNV/NO APMP	4	3.05	0.8	31.24	9.6	383.9	156.4	2.74	1.25	21.6	6.7
*DISPLACEMENT											
LESS THAN 151	3	3.16	1.0	47.98	17.3	309.2	75.2	1.81	1.14	23.5	6.1
151 - 250	1	2.82	0.0	31.20	0.0	374.3	0.0	2.84	0.00	20.5	0.0
251 - 350	0										
MORE THAN 350	2	3.49	1.2	20.16	3.4	589.3	11.5	4.18	.25	14.0	0.1
*INERTIA WEIGHT											
1800 - 2799	2	3.37	1.3	37.99	1.4	281.8	82.7	2.06	1.48	25.9	6.2
2800 - 3799	2	2.78	0.0	49.57	26.0	369.1	7.4	2.06	1.10	19.5	1.4
3800 - 4799	2	3.49	1.2	20.16	3.4	589.3	11.5	4.18	.25	14.0	0.1
4800 - 5799	0										
ALL VEHICLES	6	3.21	0.8	35.91	17.7	413.4	146.6	2.77	1.37	19.8	6.0

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EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	-0.38	0.0	15.31	0.0	6.6	0.0	-0.89	0.00	-0.6	0.0
CHRYSLER	2	-0.10	0.7	11.26	10.5	16.1	22.9	-0.86	.06	-1.1	0.4
FORD MOTOR CO.	1	-0.69	0.0	10.05	0.0	31.6	0.0	-0.72	0.00	-1.6	0.0
GENERAL MOTORS	0										
IMPORTS	2	0.26	0.0	24.34	3.5	-9.9	4.8	-0.83	.49	-1.9	0.3
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	2	-0.49	0.1	9.57	8.1	19.5	18.2	-0.85	.05	-0.7	0.1
1974	4	0.05	0.5	19.35	7.0	2.9	19.9	-0.82	.30	-1.7	0.3
1975	0										
***VEHICLE TYPE**											
AUTOMOBILE	6	-0.13	0.5	16.09	8.3	8.4	19.4	-0.83	.23	-1.4	0.6
TRUCK	0										
***VEHICLE OWNER**											
GSA	3	-0.19	0.5	12.61	7.8	12.9	17.1	-0.87	.05	-0.9	0.4
PRIVATE OWNER	3	-0.06	0.5	19.58	8.6	3.9	24.2	-0.79	.36	-1.8	0.3
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	2	-0.53	0.2	12.68	3.7	19.1	17.7	-0.80	.12	-1.1	0.7
NO CNV/NO APMP	4	0.08	0.4	17.80	9.9	3.1	20.2	-0.85	.29	-1.5	0.6
***DISPLACEMENT**											
LESS THAN 151	3	-0.06	0.5	19.58	8.6	3.9	24.2	-0.79	.36	-1.8	0.3
151 - 250	1	0.39	0.0	18.69	0.0	-0.1	0.0	-0.91	0.00	-1.4	0.0
251 - 350	0										
MORE THAN 350	2	-0.49	0.1	9.57	8.1	19.5	18.2	-0.85	.05	-0.7	0.1
***INERTIA WEIGHT**											
1800 - 2799	2	0.26	0.0	24.34	3.5	-9.9	4.8	-0.83	.49	-1.9	0.3
2800 - 3799	2	-0.15	0.8	14.37	6.1	15.7	22.4	-0.81	.13	-1.5	0.2
3800 - 4799	2	-0.49	0.1	9.57	8.1	19.5	18.2	-0.85	.05	-0.7	0.1
4800 - 5799	0										
ALL VEHICLES	6	-0.13	0.5	16.09	8.3	8.4	19.4	-0.83	.23	-1.4	0.6

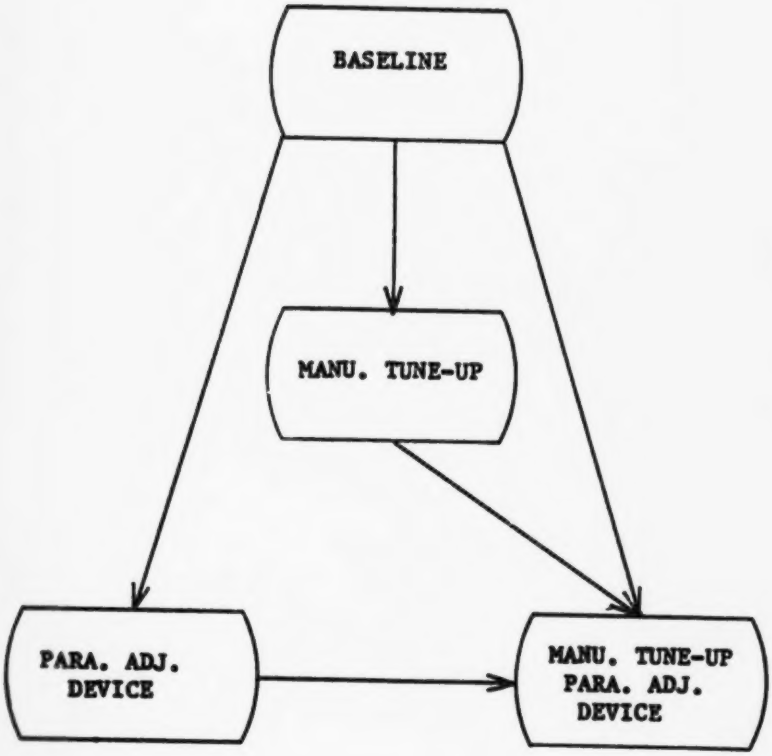
PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	-9.6	0.0	40.4	0.0	1.1	0.0	-25.6	0.0	-4.7	0.0
CHRYSLER	2	-8.2	28.7	27.6	14.0	2.6	3.6	-36.5	15.1	-6.4	0.9
FORD MOTOR CO.	1	-33.5	0.0	12.9	0.0	8.0	0.0	-126.3	0.0	-9.4	0.0
GENERAL MOTORS	0										
IMPORTS	2	7.5	2.9	39.0	4.3	-4.1	3.1	-75.0	19.6	-8.2	1.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	2	-19.1	13.3	29.1	16.1	3.1	2.8	-25.7	0.1	-5.2	0.7
1974	4	-1.6	21.5	32.1	13.1	-0.1	6.0	-80.9	34.9	-8.2	1.1
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	-7.4	19.8	31.1	12.5	1.0	5.1	-62.5	39.3	-7.2	1.8
TRUCK	0										
*VEHICLE OWNER											
GSA	3	-8.7	20.3	31.9	12.3	2.1	2.7	-32.9	12.4	-5.8	1.2
PRIVATE OWNER	3	-6.1	23.8	30.3	15.4	-0.1	7.3	-92.1	32.7	-8.6	1.0
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	2	-21.6	16.9	26.7	19.5	4.6	4.9	-76.0	71.2	-7.0	3.3
NO CNV/NO APMP	4	-0.3	19.0	33.3	10.7	-0.8	4.7	-55.7	26.5	-7.3	1.3
*DISPLACEMENT											
LESS THAN 151	3	-6.1	23.8	30.3	15.4	-0.1	7.3	-92.1	32.7	-8.6	1.0
151 - 250	1	12.1	0.0	37.5	0.0	-0.0	0.0	-47.2	0.0	-7.0	0.0
251 - 350	0										
MORE THAN 350	2	-19.1	13.3	29.1	16.1	3.1	2.8	-25.7	0.1	-5.2	0.7
*INERTIA WEIGHT											
1800 - 2799	2	7.5	2.9	39.0	4.3	-4.1	3.1	-75.0	19.6	-8.2	1.0
2800 - 3799	2	-10.7	32.3	25.2	17.4	4.0	5.7	-86.7	56.0	-8.2	1.7
3800 - 4799	2	-19.1	13.3	29.1	16.1	3.1	2.8	-25.7	0.1	-5.2	0.7
4800 - 5799	0										
ALL VEHICLES	6	-7.4	19.8	31.1	12.5	1.0	5.1	-62.5	39.3	-7.2	1.8

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

1973-1974 VEHICLES

DATA SET 3
9 VEHICLES


BASELINE
MANU. TUNE-UP
PARA. ADJ. DEVICE
MANU. TUNE-UP PARA. ADJ. DEVICE

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	3.69	0.0	115.81	0.0	704.8	0.0	1.03	0.00	9.9	0.0
CHRYSLER	7	3.84	1.1	78.63	18.2	624.1	120.3	2.75	.77	12.0	2.3
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	4.72	0.0	62.29	0.0	349.1	0.0	1.21	0.00	19.2	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	3.83	1.0	81.55	22.5	608.2	152.3	2.43	1.04	12.6	3.5
1974	1	4.65	0.0	76.14	0.0	557.1	0.0	2.04	0.00	12.8	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	3.76	1.1	76.98	20.7	541.0	138.1	2.30	1.03	13.8	3.4
TRUCK	3	4.24	1.1	88.87	24.1	725.4	26.0	2.55	1.06	10.1	0.5
*VEHICLE OWNER											
GSA	5	4.01	0.8	91.21	22.9	657.7	141.3	2.33	1.06	11.4	2.9
PRIVATE OWNER	4	3.81	1.4	68.11	10.1	533.4	129.9	2.46	1.03	14.1	3.4
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.20	0.9	81.62	24.8	630.3	154.1	2.58	1.04	12.1	3.2
NO CNV/NO APMP	5	4.50	0.7	80.41	20.8	580.2	148.2	2.23	1.02	13.0	3.7
*DISPLACEMENT											
LESS THAN 151	1	4.72	0.0	62.29	0.0	349.1	0.0	1.21	0.00	19.2	0.0
151 - 250	1	3.64	0.0	73.65	0.0	407.7	0.0	2.94	0.00	16.6	0.0
251 - 350	2	4.34	0.4	76.62	0.7	565.6	12.1	2.75	1.00	12.7	0.2
MORE THAN 350	5	3.65	1.3	87.87	26.9	706.9	36.2	2.36	1.09	10.4	0.9
*INERTIA WEIGHT											
1800 - 2799	1	4.72	0.0	62.29	0.0	349.1	0.0	1.21	0.00	19.2	0.0
2800 - 3799	3	4.11	0.5	75.63	1.8	513.0	91.6	2.81	.72	14.0	2.3
3800 - 4799	5	3.65	1.3	87.87	26.9	706.9	36.2	2.36	1.09	10.4	0.9
4800 - 5799	0										
ALL VEHICLES	9	3.92	1.0	80.95	21.2	602.5	143.5	2.38	.98	12.6	3.3

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	3.11	0.0	42.58	0.0	625.7	0.0	3.24	0.00	12.6	0.0
CHRYSLER	7	3.15	0.9	46.50	12.6	631.8	127.5	3.20	.93	12.7	2.1
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	5.38	0.0	70.84	0.0	365.1	0.0	1.13	0.00	18.0	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	3.24	1.0	47.61	14.3	608.1	149.9	3.15	.97	13.2	2.7
1974	1	4.63	0.0	58.00	0.0	548.5	0.0	1.52	0.00	13.6	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	3.65	1.3	55.05	12.2	540.1	124.6	2.72	1.19	14.2	2.5
TRUCK	3	2.88	0.4	36.19	5.4	724.1	86.7	3.47	.61	11.3	1.2
*VEHICLE OWNER											
GSA	5	3.03	0.4	43.39	13.4	642.6	147.6	3.28	.54	12.7	2.5
PRIVATE OWNER	4	3.84	1.6	55.48	12.6	550.1	134.5	2.59	1.50	14.0	2.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	2.90	0.8	46.49	13.1	635.5	168.7	3.34	.49	12.8	2.9
NO CNV/NO APMP	5	3.78	1.2	50.58	15.6	574.2	129.1	2.68	1.35	13.6	2.5
*DISPLACEMENT											
LESS THAN 151	1	5.38	0.0	70.84	0.0	365.1	0.0	1.13	0.00	18.0	0.0
151 - 250	1	3.41	0.0	65.83	0.0	414.9	0.0	2.73	0.00	16.8	0.0
251 - 350	2	4.12	0.7	55.33	3.8	577.6	41.2	2.89	1.93	13.1	0.6
MORE THAN 350	5	2.70	0.6	38.31	4.9	695.6	75.2	3.42	.44	11.7	1.0
*INERTIA WEIGHT											
1800 - 2799	1	5.38	0.0	70.84	0.0	365.1	0.0	1.13	0.00	18.0	0.0
2800 - 3799	3	3.88	0.7	58.83	6.6	523.4	98.4	2.83	1.37	14.3	2.2
3800 - 4799	5	2.70	0.6	38.31	4.9	695.6	75.2	3.42	.44	11.7	1.0
4800 - 5799	0										
ALL VEHICLES	9	3.39	1.1	48.77	13.8	601.5	141.6	2.97	1.06	13.3	2.5

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	4.91	0.0	33.34	0.0	598.5	0.0	3.51	0.00	13.3	0.0
CHRYSLER	7	3.32	1.0	37.67	11.2	582.0	96.9	3.84	1.14	13.8	1.9
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	4.19	0.0	41.63	0.0	335.4	0.0	1.80	0.00	21.4	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	3.50	1.1	36.14	9.5	563.7	124.0	3.70	1.22	14.6	3.3
1974	1	4.36	0.0	49.50	0.0	497.7	0.0	2.64	0.00	15.1	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	3.49	1.2	41.09	10.5	511.0	116.3	3.50	1.27	15.6	3.3
TRUCK	3	3.80	0.9	30.70	3.4	647.2	57.9	3.73	1.30	12.6	0.9
*VEHICLE OWNER											
GSA	5	3.68	1.2	36.21	11.2	591.3	108.0	3.67	.92	13.7	2.2
PRIVATE OWNER	4	3.48	1.0	39.40	9.4	512.7	130.5	3.47	1.63	15.8	3.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.35	1.5	39.60	11.4	578.1	111.3	4.06	.78	13.9	2.4
NO CNV/NO APMP	5	3.79	0.7	36.05	9.6	539.0	133.2	3.19	1.41	15.2	3.7
*DISPLACEMENT											
LESS THAN 151	1	4.19	0.0	41.63	0.0	335.4	0.0	1.80	0.00	21.4	0.0
151 - 250	1	2.09	0.0	55.62	0.0	416.6	0.0	3.64	0.00	17.4	0.0
251 - 350	2	3.80	0.8	38.17	16.0	542.6	63.6	4.10	2.06	14.5	0.8
MORE THAN 350	5	3.69	1.2	33.01	4.6	634.1	46.1	3.72	.93	12.8	0.7
*INERTIA WEIGHT											
1800 - 2799	1	4.19	0.0	41.63	0.0	335.4	0.0	1.80	0.00	21.4	0.0
2800 - 3799	3	3.23	1.1	43.99	15.2	500.6	85.5	3.94	1.48	15.4	1.8
3800 - 4799	5	3.69	1.2	33.01	4.6	634.1	46.1	3.72	.93	12.8	0.7
4800 - 5799	0										
ALL VEHICLES	9	3.59	1.1	37.63	9.9	556.4	118.1	3.58	1.20	14.6	3.0

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	3.11	0.0	42.58	0.0	625.7	0.0	3.24	0.00	12.6	0.0
CHRYSLER	7	3.15	0.9	46.50	12.6	631.8	127.5	3.20	.93	12.7	2.1
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	5.38	0.0	70.84	0.0	365.1	0.0	1.13	0.00	18.0	0.0
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	3.24	1.0	47.61	14.3	608.1	149.9	3.15	.97	13.2	2.7
1974	1	4.63	0.0	58.00	0.0	548.5	0.0	1.52	0.00	13.6	0.0
1975	0										
***VEHICLE TYPE**											
AUTOMOBILE	6	3.65	1.3	55.05	12.2	540.1	124.6	2.72	1.19	14.2	2.5
TRUCK	3	2.88	0.4	36.19	5.4	724.1	86.7	3.47	.61	11.3	1.2
***VEHICLE OWNER**											
GSA	5	3.03	0.4	43.39	13.4	642.6	147.6	3.28	.54	12.7	2.5
PRIVATE OWNER	4	3.84	1.6	55.48	12.6	550.1	134.5	2.59	1.50	14.0	2.7
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	2.90	0.8	46.49	13.1	635.5	168.7	3.34	.49	12.8	2.9
NO CNV/NO APMP	5	3.78	1.2	50.58	15.6	574.2	129.1	2.68	1.35	13.6	2.5
***DISPLACEMENT**											
LESS THAN 151	1	5.38	0.0	70.84	0.0	365.1	0.0	1.13	0.00	18.0	0.0
151 - 250	1	3.41	0.0	65.83	0.0	414.9	0.0	2.73	0.00	16.8	0.0
251 - 350	2	4.12	0.7	55.33	3.8	577.6	41.2	2.89	1.93	13.1	0.6
MORE THAN 350	5	2.70	0.6	38.31	4.9	695.6	75.2	3.42	.44	11.7	1.0
***INERTIA WEIGHT**											
1800 - 2799	1	5.38	0.0	70.84	0.0	365.1	0.0	1.13	0.00	18.0	0.0
2800 - 3799	3	3.88	0.7	58.83	6.6	523.4	98.4	2.83	1.37	14.3	2.2
3800 - 4799	5	2.70	0.6	38.31	4.9	695.6	75.2	3.42	.44	11.7	1.0
4800 - 5799	0										
ALL VEHICLES	9	3.39	1.1	48.77	13.8	601.5	141.6	2.97	1.06	13.3	2.5

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	0.58	0.0	73.23	0.0	79.1	0.0	-2.21	0.00	-2.7	0.0
CHRYSLER	7	0.69	1.0	32.13	22.8	-7.7	38.6	-0.45	.66	-0.7	0.9
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	-0.66	0.0	-8.55	0.0	-16.0	0.0	0.08	0.00	1.2	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	0.59	1.0	33.93	29.8	0.1	47.5	-0.73	.79	-0.7	1.3
1974	1	0.02	0.0	18.14	0.0	8.6	0.0	0.52	0.00	-0.7	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	0.11	0.4	21.93	27.6	0.9	41.0	-0.42	.99	-0.4	1.3
TRUCK	3	1.36	1.4	52.68	19.5	1.3	61.0	-0.92	.46	-1.2	1.2
*VEHICLE OWNER											
GSA	5	0.98	1.1	47.82	27.7	15.1	56.2	-0.95	.92	-1.3	1.2
PRIVATE OWNER	4	-0.04	0.5	12.63	14.5	-16.6	18.1	-0.13	.56	0.1	0.8
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	0.30	0.2	35.12	29.5	-5.2	61.4	-0.76	1.04	-0.7	1.3
NO CNV/NO APMP	5	0.71	1.3	29.83	30.8	6.0	32.7	-0.45	.77	-0.6	1.3
*DISPLACEMENT											
LESS THAN 151	1	-0.66	0.0	-8.55	0.0	-16.0	0.0	0.08	0.00	1.2	0.0
151 - 250	1	0.23	0.0	7.82	0.0	-7.2	0.0	0.21	0.00	-0.2	0.0
251 - 350	2	0.22	0.3	21.29	4.5	-12.0	29.1	-0.14	.93	-0.4	0.4
MORE THAN 350	5	0.95	1.1	49.55	24.7	11.3	58.7	-1.06	.76	-1.3	1.3
*INERTIA WEIGHT											
1800 - 2799	1	-0.66	0.0	-8.55	0.0	-16.0	0.0	0.08	0.00	1.2	0.0
2800 - 3799	3	0.22	0.2	16.80	8.4	-10.4	20.8	-0.02	.68	-0.3	0.3
3800 - 4799	5	0.95	1.1	49.55	24.7	11.3	58.7	-1.06	.76	-1.3	1.3
4800 - 5799	0										
ALL VEHICLES	9	0.53	1.0	32.18	28.4	1.0	44.5	-0.59	.85	-0.7	1.3

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	15.7	0.0	63.2	0.0	11.2	0.0	-214.6	0.0	-27.8	0.0
CHRYSLER	7	15.3	18.3	38.6	19.9	-1.3	5.5	-21.6	42.4	-6.3	9.1
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	-14.0	0.0	-13.7	0.0	-4.6	0.0	6.6	0.0	6.4	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	13.5	19.4	37.0	28.0	-0.5	6.9	-48.1	76.5	-7.4	12.6
1974	1	0.4	0.0	23.8	0.0	1.5	0.0	25.5	0.0	-5.7	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	3.8	10.2	24.1	25.4	-0.6	6.3	-34.8	89.6	-4.9	11.9
TRUCK	3	28.6	22.6	58.4	5.7	0.4	8.3	-50.0	51.1	-12.0	12.2
*VEHICLE OWNER											
GSA	5	21.6	19.0	49.8	22.4	2.1	7.8	-71.5	91.2	-13.0	12.9
PRIVATE OWNER	4	0.2	10.3	17.7	21.2	-3.2	3.2	-0.4	21.1	-0.1	5.0
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	8.6	5.1	39.1	23.9	-0.8	8.6	-59.8	103.8	-7.3	13.7
NO CNV/NO APMP	5	14.9	25.6	32.7	31.0	0.2	5.4	-24.0	51.6	-7.2	11.7
*DISPLACEMENT											
LESS THAN 151	1	-14.0	0.0	-13.7	0.0	-4.6	0.0	6.6	0.0	6.4	0.0
151 - 250	1	6.3	0.0	10.6	0.0	-1.8	0.0	7.1	0.0	-1.1	0.0
251 - 350	2	5.4	7.1	27.8	5.6	-2.1	5.1	1.3	34.2	-3.4	3.3
MORE THAN 350	5	21.1	19.5	53.5	14.4	1.7	8.2	-75.1	87.6	-12.8	13.2
*INERTIA WEIGHT											
1800 - 2799	1	-14.0	0.0	-13.7	0.0	-4.6	0.0	6.6	0.0	6.4	0.0
2800 - 3799	3	5.7	5.0	22.0	10.7	-2.0	3.6	3.3	24.4	-2.6	2.7
3800 - 4799	5	21.1	19.5	53.5	14.4	1.7	8.2	-75.1	87.6	-12.8	13.2
4800 - 5799	0										
ALL VEHICLES	9	12.1	18.6	35.5	26.5	-0.2	6.5	-39.9	75.7	-7.2	11.8

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--PARA ADJ/DEVICE)

	# OF VEH.	HC MEAN	HC S.D.	CO MEAN	CO S.D.	CO2 MEAN	CO2 S.D.	NOX MEAN	NOX S.D.	MPG MEAN	MPG S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	4.91	0.0	33.34	0.0	598.5	0.0	3.51	0.00	13.3	0.0
CHRYSLER	7	3.32	1.0	37.67	11.2	582.0	96.9	3.84	1.14	13.8	1.9
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	4.19	0.0	41.63	0.0	335.4	0.0	1.80	0.00	21.4	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	3.50	1.1	36.14	9.5	563.7	124.0	3.70	1.22	14.6	3.3
1974	1	4.36	0.0	49.50	0.0	497.7	0.0	2.64	0.00	15.1	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	3.49	1.2	41.09	10.5	511.0	116.3	3.50	1.27	15.6	3.3
TRUCK	3	3.80	0.9	30.70	3.4	647.2	57.9	3.73	1.30	12.6	0.9
*VEHICLE OWNER											
GSA	5	3.68	1.2	36.21	11.2	591.3	108.0	3.67	.92	13.7	2.2
PRIVATE OWNER	4	3.48	1.0	39.40	9.4	512.7	130.5	3.47	1.63	15.8	3.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.35	1.5	39.60	11.4	578.1	111.3	4.06	.78	13.9	2.4
NO CNV/NO APMP	5	3.79	0.7	36.05	9.6	539.0	133.2	3.19	1.41	15.2	3.7
*DISPLACEMENT											
LESS THAN 151	1	4.19	0.0	41.63	0.0	335.4	0.0	1.80	0.00	21.4	0.0
151 - 250	1	2.09	0.0	55.62	0.0	416.6	0.0	3.64	0.00	17.4	0.0
251 - 350	2	3.80	0.8	38.17	16.0	542.6	63.6	4.10	2.06	14.5	0.8
MORE THAN 350	5	3.69	1.2	33.01	4.6	634.1	46.1	3.72	.93	12.8	0.7
*INERTIA WEIGHT											
1800 - 2799	1	4.19	0.0	41.63	0.0	335.4	0.0	1.80	0.00	21.4	0.0
2800 - 3799	3	3.23	1.1	43.99	15.2	500.6	85.5	3.94	1.48	15.4	1.8
3800 - 4799	5	3.69	1.2	33.01	4.6	634.1	46.1	3.72	.93	12.8	0.7
4800 - 5799	0										
ALL VEHICLES	9	3.59	1.1	37.63	9.9	556.4	118.1	3.58	1.20	14.6	3.0

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	-1.22	0.0	82.47	0.0	106.3	0.0	-2.48	0.00	-3.4	0.0
CHRYSLER	7	0.52	1.2	40.96	24.9	42.1	53.1	-1.10	.75	-1.8	0.8
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	0.53	0.0	20.56	0.0	13.7	0.0	-0.59	0.00	-2.2	0.0
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	0.33	1.3	45.40	28.0	44.4	55.5	-1.27	.85	-2.0	1.0
1974	1	0.29	0.0	26.64	0.0	59.4	0.0	-0.60	0.00	-2.2	0.0
1975	0										
***VEHICLE TYPE**											
AUTOMOBILE	6	0.27	0.9	35.89	25.9	30.0	45.6	-1.20	.85	-1.8	1.0
TRUCK	3	0.44	1.9	58.17	27.1	78.2	57.9	-1.17	.97	-2.5	0.5
***VEHICLE OWNER**											
GSA	5	0.33	1.7	55.00	30.1	66.4	59.9	-1.34	.96	-2.3	1.0
PRIVATE OWNER	4	0.33	0.5	28.71	14.9	20.7	30.1	-1.01	.72	-1.7	0.7
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	-0.15	1.2	42.01	31.0	52.2	54.2	-1.48	.89	-1.8	1.3
NO CNV/NO APMP	5	0.71	1.2	44.36	27.0	41.2	56.3	-0.97	.80	-2.2	0.6
***DISPLACEMENT**											
LESS THAN 151	1	0.53	0.0	20.66	0.0	13.7	0.0	-0.59	0.00	-2.2	0.0
151 - 250	1	1.55	0.0	18.03	0.0	-8.9	0.0	-0.70	0.00	-0.8	0.0
251 - 350	2	0.53	0.3	38.45	15.7	23.0	51.5	-1.35	1.05	-1.8	0.6
MORE THAN 350	5	-0.04	1.6	54.85	30.3	72.8	50.9	-1.35	.95	-2.3	1.0
***INERTIA WEIGHT**											
1800 - 2799	1	0.53	0.0	20.66	0.0	13.7	0.0	-0.59	0.00	-2.2	0.0
2800 - 3799	3	0.87	0.6	31.64	16.7	12.4	40.8	-1.13	.83	-1.5	0.7
3800 - 4799	5	-0.04	1.6	54.85	30.3	72.8	50.9	-1.35	.95	-2.3	1.0
4800 - 5799	0										
ALL VEHICLES	9	0.33	1.2	43.32	27.0	46.1	52.1	-1.19	.83	-2.0	0.9

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	-33.1	0.0	71.2	0.0	15.1	0.0	-240.8	0.0	-34.8	0.0
CHRYSLER	7	9.1	28.9	49.3	19.7	6.0	7.8	-44.5	35.5	-16.1	8.9
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	11.2	0.0	33.2	0.0	3.9	0.0	-48.8	0.0	-11.6	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	4.5	30.7	51.8	20.1	6.3	7.8	-71.5	75.6	-17.7	10.8
1974	1	6.2	0.0	35.0	0.0	10.7	0.0	-29.4	0.0	-17.4	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	5.1	26.6	43.2	19.8	4.8	7.0	-71.3	84.3	-14.4	10.9
TRUCK	3	3.8	39.1	63.3	12.5	10.7	8.1	-57.8	53.5	-24.3	3.5
*VEHICLE OWNER											
GSA	5	4.2	38.5	57.1	20.6	9.0	8.7	-87.6	94.8	-22.5	11.2
PRIVATE OWNER	4	5.2	15.1	40.9	16.3	3.9	5.3	-40.8	16.7	-11.7	4.3
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	-5.9	33.3	47.2	23.2	7.0	7.8	-87.5	103.6	-17.3	14.1
NO CNV/NO APMP	5	13.1	24.9	52.1	18.7	6.6	8.1	-50.3	39.8	-18.0	7.4
*DISPLACEMENT											
LESS THAN 151	1	11.2	0.0	33.2	0.0	3.9	0.0	-48.8	0.0	-11.6	0.0
151 - 250	1	42.6	0.0	24.5	0.0	-2.2	0.0	-23.8	0.0	-4.8	0.0
251 - 350	2	12.8	9.3	50.1	21.4	4.2	9.2	-44.9	21.9	-14.0	4.7
MORE THAN 350	5	-7.5	32.3	58.3	18.3	10.2	7.1	-87.8	94.6	-23.0	10.3
*INERTIA WEIGHT											
1800 - 2799	1	11.2	0.0	33.2	0.0	3.9	0.0	-48.8	0.0	-11.6	0.0
2800 - 3799	3	22.7	18.4	41.6	21.1	2.0	7.5	-37.9	19.7	-10.9	6.3
3800 - 4799	5	-7.5	32.3	58.3	18.3	10.2	7.1	-87.8	94.6	-23.0	10.3
4800 - 5799	0										
ALL VEHICLES	9	4.7	28.7	49.9	19.6	6.8	7.4	-66.8	72.1	-17.7	10.1

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	3.60	0.0	46.38	0.0	598.6	0.0	2.44	0.00	13.0	0.0
CHRYSLER	7	4.06	2.0	42.38	22.0	567.5	89.2	4.11	.97	13.8	1.6
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	4.85	0.0	45.08	0.0	337.3	0.0	1.72	0.00	21.0	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	3.62	1.1	37.99	12.1	554.1	114.6	3.82	1.22	14.6	3.0
1974	1	7.95	0.0	84.21	0.0	475.9	0.0	2.36	0.00	14.0	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	4.07	2.2	48.56	20.5	508.2	117.9	3.21	1.30	15.3	3.2
TRUCK	3	4.15	0.9	32.26	12.1	619.9	37.5	4.56	.32	13.0	0.4
*VEHICLE OWNER											
GSA	5	3.88	0.7	40.06	14.2	575.0	92.8	4.06	.95	13.8	1.9
PRIVATE OWNER	4	4.37	2.7	46.96	25.9	508.4	132.9	3.15	1.51	15.4	3.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.41	1.5	43.93	11.5	558.4	98.2	3.65	.98	14.1	2.1
NO CNV/NO APMP	5	4.64	2.0	42.49	25.1	535.0	129.6	3.66	1.54	14.9	3.4
*DISPLACEMENT											
LESS THAN 151	1	4.85	0.0	45.08	0.0	337.3	0.0	1.72	0.00	21.0	0.0
151 - 250	1	3.35	0.0	57.16	0.0	416.8	0.0	4.21	0.00	17.2	0.0
251 - 350	2	5.53	3.4	56.79	38.8	527.4	72.9	3.77	2.00	14.0	0.0
MORE THAN 350	5	3.52	1.3	34.47	10.9	619.9	30.5	3.89	1.00	13.0	0.3
*INERTIA WEIGHT											
1800 - 2799	1	4.85	0.0	45.08	0.0	337.3	0.0	1.72	0.00	21.0	0.0
2800 - 3799	3	4.81	2.7	56.91	27.4	490.6	82.1	3.92	1.44	15.0	1.8
3800 - 4799	5	3.52	1.3	34.47	10.9	619.9	30.5	3.89	1.00	13.0	0.3
4800 - 5799	0										
ALL VEHICLES	9	4.10	1.8	43.13	19.1	545.4	110.3	3.66	1.24	14.5	2.8

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	0.09	0.0	69.43	0.0	106.2	0.0	-1.41	0.00	-3.1	0.0
CHRYSLER	7	-0.22	1.7	36.25	28.4	56.6	65.6	-1.36	.91	-1.8	1.1
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	-0.13	0.0	17.21	0.0	11.8	0.0	-0.51	0.00	-1.7	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	0.21	1.0	43.55	23.6	54.1	65.1	-1.39	.81	-2.1	1.1
1974	1	-3.30	0.0	-8.07	0.0	81.2	0.0	-0.32	0.00	-1.2	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	-0.31	1.5	28.42	27.0	32.9	48.5	-0.91	.64	-1.5	0.9
TRUCK	3	0.09	1.7	56.61	22.7	105.5	63.2	-2.00	.77	-2.9	0.6
*VEHICLE OWNER											
GSA	5	0.13	1.2	51.15	25.7	82.7	68.1	-1.74	.65	-2.5	1.1
PRIVATE OWNER	4	-0.56	1.9	21.15	23.2	25.1	38.3	-0.69	.70	-1.3	0.3
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	-0.22	0.9	37.69	22.8	71.9	86.9	-1.07	.59	-2.0	1.5
NO CNV/NO APMP	5	-0.15	1.9	37.92	34.3	45.3	39.0	-1.43	1.04	-1.9	0.7
*DISPLACEMENT											
LESS THAN 151	1	-0.13	0.0	17.21	0.0	11.8	0.0	-0.51	0.00	-1.7	0.0
151 - 250	1	0.29	0.0	16.49	0.0	-9.1	0.0	-1.27	0.00	-0.6	0.0
251 - 350	2	-1.19	3.0	19.83	39.5	38.2	60.8	-1.02	1.00	-1.3	0.2
MORE THAN 350	5	0.13	1.2	53.40	22.2	87.0	61.3	-1.52	.95	-2.5	1.0
*INERTIA WEIGHT											
1800 - 2799	1	-0.13	0.0	17.21	0.0	11.8	0.0	-0.51	0.00	-1.7	0.0
2800 - 3799	3	-0.70	2.3	18.72	28.0	22.4	50.9	-1.11	.72	-1.1	0.5
3800 - 4799	5	0.13	1.2	53.40	22.2	87.0	61.3	-1.52	.95	-2.5	1.0
4800 - 5799	0										
ALL VEHICLES	9	-0.18	1.5	37.82	28.0	57.1	61.6	-1.27	.84	-2.0	1.0

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	2.4	0.0	60.0	0.0	15.1	0.0	-136.9	0.0	-31.6	0.0
CHRYSLER	7	-5.0	37.9	44.5	29.8	8.1	9.3	-61.5	70.4	-16.9	11.9
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	-2.8	0.0	27.6	0.0	3.4	0.0	-42.1	0.0	-9.1	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	4.4	22.7	51.2	18.6	7.5	8.8	-74.2	68.1	-18.7	12.2
1974	1	-71.0	0.0	-10.6	0.0	14.6	0.0	-15.7	0.0	-9.2	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	-4.2	33.9	35.0	27.7	5.3	7.6	-49.1	46.3	-12.2	9.9
TRUCK	3	-3.4	38.2	63.1	14.6	14.4	8.0	-105.1	96.1	-28.6	7.0
*VEHICLE OWNER											
GSA	5	0.0	27.5	54.3	20.7	11.2	9.4	-99.1	76.0	-24.1	12.7
PRIVATE OWNER	4	-9.0	42.7	31.9	31.7	4.7	6.8	-28.6	20.8	-9.5	1.5
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	-4.0	25.7	44.4	15.8	9.6	11.9	-57.5	55.7	-19.6	16.1
NO CNV/NO APMP	5	-3.9	40.9	44.4	35.7	7.3	6.1	-75.9	79.7	-16.1	8.9
*DISPLACEMENT											
LESS THAN 151	1	-2.8	0.0	27.6	0.0	3.4	0.0	-42.1	0.0	-9.1	0.0
151 - 250	1	8.0	0.0	22.4	0.0	-2.2	0.0	-43.2	0.0	-3.4	0.0
251 - 350	2	-24.2	66.1	25.7	51.3	6.9	10.9	-32.8	24.3	-10.4	1.7
MORE THAN 350	5	1.5	28.2	59.6	12.1	12.0	8.0	-91.7	84.1	-25.1	10.8
*INERTIA WEIGHT											
1800 - 2799	1	-2.8	0.0	27.6	0.0	3.4	0.0	-42.1	0.0	-9.1	0.0
2800 - 3799	3	-13.5	50.3	24.6	36.3	3.8	9.3	-36.3	18.2	-8.1	4.2
3800 - 4799	5	1.5	28.2	59.6	12.1	12.0	8.0	-91.7	84.1	-25.1	10.8
4800 - 5799	0										
ALL VEHICLES	9	-4.0	32.9	44.4	27.0	8.3	8.5	-67.7	66.6	-17.6	11.9

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	3.60	0.0	46.38	0.0	598.6	0.0	2.44	0.00	13.0	0.0
CHRYSLER	7	4.06	2.0	42.38	22.0	567.5	89.2	4.11	.97	13.8	1.6
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	4.85	0.0	45.08	0.0	337.3	0.0	1.72	0.00	21.0	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	3.62	1.1	37.99	12.1	554.1	114.6	3.82	1.22	14.6	3.0
1974	1	7.95	0.0	84.21	0.0	475.9	0.0	2.36	0.00	14.0	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	4.07	2.2	48.56	20.5	508.2	117.9	3.21	1.30	15.3	3.2
TRUCK	3	4.15	0.9	32.26	12.1	619.9	37.5	4.56	.32	13.0	0.4
*VEHICLE OWNER											
GSA	5	3.88	0.7	40.06	14.2	575.0	92.8	4.06	.95	13.8	1.9
PRIVATE OWNER	4	4.37	2.7	46.96	25.9	508.4	132.9	3.15	1.51	15.4	3.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.41	1.5	43.93	11.5	558.4	98.2	3.65	.98	14.1	2.1
NO CNV/NO APMP	5	4.64	2.0	42.49	25.1	535.0	129.6	3.66	1.54	14.9	3.4
*DISPLACEMENT											
LESS THAN 151	1	4.85	0.0	45.08	0.0	337.3	0.0	1.72	0.00	21.0	0.0
151 - 250	1	3.35	0.0	57.16	0.0	416.8	0.0	4.21	0.00	17.2	0.0
251 - 350	2	5.53	3.4	56.79	38.8	527.4	72.9	3.77	2.00	14.0	0.0
MORE THAN 350	5	3.52	1.3	34.47	10.9	619.9	30.5	3.89	1.00	13.0	0.3
*INERTIA WEIGHT											
1800 - 2799	1	4.85	0.0	45.08	0.0	337.3	0.0	1.72	0.00	21.0	0.0
2800 - 3799	3	4.81	2.7	56.91	27.4	490.6	82.1	3.92	1.44	15.0	1.8
3800 - 4799	5	3.52	1.3	34.47	10.9	619.9	30.5	3.89	1.00	13.0	0.3
4800 - 5799	0										
ALL VEHICLES	9	4.10	1.8	43.13	19.1	545.4	110.3	3.66	1.24	14.5	2.8

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	-0.49	0.0	-3.80	0.0	27.1	0.0	0.80	0.00	-0.4	0.0
CHRYSLER	7	-0.91	1.3	4.11	15.9	64.2	82.9	-0.91	.54	-1.2	1.1
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	0.53	0.0	25.76	0.0	27.8	0.0	-0.59	0.00	-3.0	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	-0.38	0.8	9.62	11.2	54.0	78.4	-0.67	.78	-1.4	1.2
1974	1	-3.32	0.0	-26.21	0.0	72.6	0.0	-0.84	0.00	-0.4	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	-0.42	1.5	6.49	19.3	32.0	24.1	-0.48	.82	-1.1	1.0
TRUCK	3	-1.28	0.5	3.93	8.8	104.3	122.5	-1.09	.35	-1.7	1.6
*VEHICLE OWNER											
GSA	5	-0.85	0.7	3.33	7.7	67.6	100.6	-0.79	.94	-1.2	1.3
PRIVATE OWNER	4	-0.52	1.9	8.52	24.0	41.7	21.2	-0.56	.49	-1.4	1.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	-0.51	0.9	2.57	8.6	77.1	113.0	-0.32	1.00	-1.3	1.5
NO CNV/NO APMP	5	-0.86	1.6	8.09	20.8	39.3	21.4	-0.98	.31	-1.3	1.0
*DISPLACEMENT											
LESS THAN 151	1	0.53	0.0	25.76	0.0	27.8	0.0	-0.59	0.00	-3.0	0.0
151 - 250	1	0.06	0.0	8.67	0.0	-1.9	0.0	-1.48	0.00	-0.4	0.0
251 - 350	2	-1.41	2.7	-1.46	35.0	50.2	31.7	-0.89	.07	-0.9	0.6
MORE THAN 350	5	-0.82	0.8	3.85	8.2	75.7	95.1	-0.46	.92	-1.3	1.3
*INERTIA WEIGHT											
1800 - 2799	1	0.53	0.0	25.76	0.0	27.8	0.0	-0.59	0.00	-3.0	0.0
2800 - 3799	3	-0.92	2.1	1.92	25.4	32.8	37.5	-1.09	.34	-0.7	0.5
3800 - 4799	5	-0.82	0.8	3.85	8.2	75.7	95.1	-0.46	.92	-1.3	1.3
4800 - 5799	0										
ALL VEHICLES	9	-0.71	1.3	5.64	15.9	56.1	73.6	-0.69	.74	-1.3	1.2

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	-15.8	0.0	-8.9	0.0	4.3	0.0	24.7	0.0	-2.9	0.0
CHRYSLER	7	-25.0	34.1	11.0	31.5	9.0	10.1	-32.5	22.3	-10.3	11.2
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	9.9	0.0	36.4	0.0	7.6	0.0	-52.2	0.0	-16.6	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	-13.6	26.9	18.7	22.0	7.7	9.3	-24.9	28.4	-11.0	10.7
1974	1	-71.7	0.0	-45.2	0.0	13.2	0.0	-55.3	0.0	-3.3	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	-8.4	32.8	11.2	33.4	5.8	4.5	-25.8	34.1	-7.3	5.6
TRUCK	3	-43.5	10.0	12.3	26.6	13.3	14.4	-33.2	16.5	-15.9	16.5
*VEHICLE OWNER											
GSA	5	-28.9	22.1	8.2	21.1	8.7	12.1	-25.8	31.9	-10.6	13.8
PRIVATE OWNER	4	-9.1	41.8	15.8	41.2	7.8	3.9	-31.4	28.0	-9.6	5.5
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	-14.3	29.4	4.1	20.1	9.8	13.6	-11.0	33.8	-12.0	15.3
NO CNV/NO APMP	5	-24.8	36.1	17.6	36.7	7.1	3.9	-42.1	15.0	-8.6	5.4
*DISPLACEMENT											
LESS THAN 151	1	9.9	0.0	36.4	0.0	7.6	0.0	-52.2	0.0	-16.6	0.0
151 - 250	1	1.8	0.0	13.2	0.0	-0.5	0.0	-54.2	0.0	-2.3	0.0
251 - 350	2	-29.1	60.3	-0.5	63.2	8.9	6.1	-38.7	23.4	-6.9	5.0
MORE THAN 350	5	-26.9	25.8	11.2	22.9	9.9	11.2	-14.2	29.5	-11.7	13.1
*INERTIA WEIGHT											
1800 - 2799	1	9.9	0.0	36.4	0.0	7.6	0.0	-52.2	0.0	-16.6	0.0
2800 - 3799	3	-18.8	46.2	4.1	45.4	5.8	6.9	-43.9	18.8	-5.4	4.4
3800 - 4799	5	-26.9	25.8	11.2	22.9	9.9	11.2	-14.2	29.5	-11.7	13.1
4800 - 5799	0										
ALL VEHICLES	9	-20.1	31.7	11.6	29.6	8.3	8.9	-28.3	28.5	-10.2	10.3

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(PARA ADJ/DEVICE-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	3.60	0.0	46.38	0.0	598.6	0.0	2.44	0.00	13.0	0.0
CHRYSLER	7	4.06	2.0	42.38	22.0	567.5	89.2	4.11	.97	13.8	1.6
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	4.85	0.0	45.08	0.0	337.3	0.0	1.72	0.00	21.0	0.0
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	3.62	1.1	37.99	12.1	554.1	114.6	3.82	1.22	14.6	3.0
1974	1	7.95	0.0	84.21	0.0	475.9	0.0	2.36	0.00	14.0	0.0
1975	0										
***VEHICLE TYPE**											
AUTOMOBILE	6	4.07	2.2	48.56	20.5	508.2	117.9	3.21	1.30	15.3	3.2
TRUCK	3	4.15	0.9	32.26	12.1	619.9	37.5	4.56	.32	13.0	0.4
***VEHICLE OWNER**											
GSA	5	3.88	0.7	40.06	14.2	575.0	92.8	4.06	.95	13.8	1.9
PRIVATE OWNER	4	4.37	2.7	46.96	25.9	508.4	132.9	3.15	1.51	15.4	3.7
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.41	1.5	43.93	11.5	558.4	98.2	3.65	.98	14.1	2.1
NO CNV/NO APMP	5	4.64	2.0	42.49	25.1	535.0	129.6	3.66	1.54	14.9	3.4
***DISPLACEMENT**											
LESS THAN 151	1	4.85	0.0	45.08	0.0	337.3	0.0	1.72	0.00	21.0	0.0
151 - 250	1	3.35	0.0	57.16	0.0	416.8	0.0	4.21	0.00	17.2	0.0
251 - 350	2	5.53	3.4	56.79	38.8	527.4	72.9	3.77	2.00	14.0	0.0
MORE THAN 350	5	3.52	1.3	34.47	10.9	619.9	30.5	3.89	1.00	13.0	0.3
***INERTIA WEIGHT**											
1800 - 2799	1	4.85	0.0	45.08	0.0	337.3	0.0	1.72	0.00	21.0	0.0
2800 - 3799	3	4.81	2.7	56.91	27.4	490.6	82.1	3.92	1.44	15.0	1.8
3800 - 4799	5	3.52	1.3	34.47	10.9	619.9	30.5	3.89	1.00	13.0	0.3
4800 - 5799	0										
ALL VEHICLES	9	4.10	1.8	43.13	19.1	545.4	110.3	3.66	1.24	14.5	2.8

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(PARA ADJ/DEVICE-TUNEUP/PARADJ/DEV)

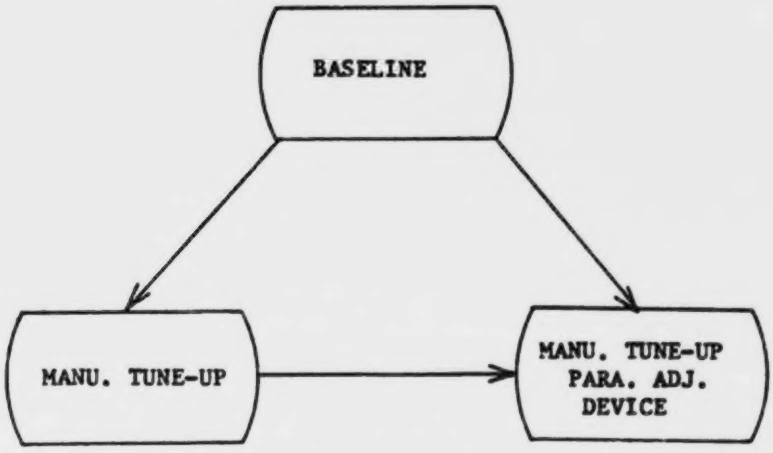
	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	1.31	0.0	-13.04	0.0	-0.1	0.0	1.07	0.00	0.3	0.0
CHRYSLER	7	-0.74	1.5	-4.71	16.5	14.4	49.4	-0.26	.95	-0.0	0.8
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	-0.66	0.0	-3.45	0.0	-1.9	0.0	0.08	0.00	0.5	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	-0.12	0.9	-1.85	10.2	9.7	46.1	-0.12	.99	-0.1	0.7
1974	1	-3.59	0.0	-34.71	0.0	21.8	0.0	0.28	0.00	1.1	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	-0.58	1.7	-7.47	15.3	2.9	11.2	0.30	.54	0.3	0.4
TRUCK	3	-0.35	0.8	-1.56	15.0	27.3	81.2	-0.83	1.21	-0.4	1.0
*VEHICLE OWNER											
GSA	5	-0.20	1.1	-3.85	11.8	16.3	59.4	-0.40	1.19	-0.1	0.8
PRIVATE OWNER	4	-0.89	1.9	-7.56	19.2	4.4	14.1	0.32	.20	0.3	0.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	-0.07	1.2	-4.33	11.3	19.7	47.3	0.41	.69	-0.2	0.7
NO CNV/NO APMP	5	-0.86	1.6	-6.44	18.0	4.1	44.1	-0.47	.98	0.3	0.7
*DISPLACEMENT											
LESS THAN 151	1	-0.66	0.0	-3.45	0.0	-1.9	0.0	0.08	0.00	0.5	0.0
151 - 250	1	-1.26	0.0	-1.54	0.0	-0.2	0.0	-0.57	0.00	0.2	0.0
251 - 350	2	-1.73	2.6	-18.62	22.8	15.2	9.3	0.32	.06	0.5	0.8
MORE THAN 350	5	0.17	1.0	-1.45	13.5	14.2	60.3	-0.17	1.26	-0.2	0.8
*INERTIA WEIGHT											
1800 - 2799	1	-0.66	0.0	-3.45	0.0	-1.9	0.0	0.08	0.00	0.5	0.0
2800 - 3799	3	-1.57	1.9	-12.93	18.9	10.1	11.1	0.02	.52	0.4	0.6
3800 - 4799	5	0.17	1.0	-1.45	13.5	14.2	60.3	-0.17	1.26	-0.2	0.8
4800 - 5799	0										
ALL VEHICLES	9	-0.51	1.4	-5.50	14.5	11.0	43.3	-0.08	.93	0.1	0.7

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(PARA ADJ/DEVICE-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	26.7	0.0	-39.1	0.0	-0.0	0.0	30.5	0.0	2.4	0.0
CHRYSLER	7	-20.9	39.8	-11.5	39.5	2.1	7.8	-10.8	29.3	-0.6	6.0
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	-15.8	0.0	-8.3	0.0	-0.6	0.0	4.4	0.0	2.2	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	-6.6	30.2	-7.2	30.6	1.2	7.2	-6.4	30.4	-0.8	5.1
1974	1	-82.3	0.0	-70.1	0.0	4.4	0.0	10.6	0.0	7.0	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	-16.8	45.6	-17.2	33.3	0.6	2.1	8.5	15.0	1.8	2.9
TRUCK	3	-11.5	22.6	-8.1	46.7	3.5	12.9	-30.5	35.7	-3.5	8.1
*VEHICLE OWNER											
GSA	5	-13.6	34.8	-13.3	36.1	2.1	9.3	-15.3	36.5	-1.4	6.5
PRIVATE OWNER	4	-16.8	47.0	-15.4	40.1	0.9	2.7	9.0	4.5	1.8	3.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	-6.9	42.1	-14.9	33.2	2.9	7.1	10.1	19.2	-1.9	5.7
NO CNV/NO APMP	5	-21.6	37.8	-13.6	41.1	0.5	7.2	-16.1	32.0	1.6	5.3
*DISPLACEMENT											
LESS THAN 151	1	-15.8	0.0	-8.3	0.0	-0.6	0.0	4.4	0.0	2.2	0.0
151 - 250	1	-60.3	0.0	-2.8	0.0	-0.0	0.0	-15.7	0.0	1.3	0.0
251 - 350	2	-39.2	61.1	-39.8	42.9	2.9	2.1	8.5	2.9	3.1	5.5
MORE THAN 350	5	3.8	26.4	-7.4	40.3	1.8	9.5	-9.2	38.9	-1.9	6.3
*INERTIA WEIGHT											
1800 - 2799	1	-15.8	0.0	-8.3	0.0	-0.6	0.0	4.4	0.0	2.2	0.0
2800 - 3799	3	-46.2	44.9	-27.4	37.1	1.9	2.3	0.5	14.1	2.5	4.0
3800 - 4799	5	3.8	26.4	-7.4	40.3	1.8	9.5	-9.2	38.9	-1.9	6.3
4800 - 5799	0										
ALL VEHICLES	9	-15.0	37.9	-14.2	35.5	1.6	6.8	-4.5	29.0	0.0	5.4

1973-1974 VEHICLES

DATA SET 4
15 VEHICLES


BASELINE
MANU. TUNE-UP
MANU. TUNE-UP
PARA. ADJ.
DEVICE

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	2	4.30	0.9	91.44	34.5	647.6	80.8	2.22	1.68	11.2	1.8
CHRYSLER	9	3.65	1.1	73.96	19.5	598.7	142.9	2.71	.83	12.8	3.1
FORD MOTOR CO.	1	3.40	0.0	97.95	0.0	346.4	0.0	0.74	0.00	17.4	0.0
GENERAL MOTORS	0										
IMPORTS	3	3.86	1.0	66.56	4.3	295.8	68.7	1.20	.71	21.9	3.8
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	10	3.80	1.1	76.35	23.3	613.3	136.3	2.64	1.02	12.5	3.1
1974	5	3.68	0.7	76.54	12.4	356.8	123.5	1.36	.70	19.2	4.9
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	12	3.64	0.9	73.30	18.5	478.4	165.1	2.13	1.13	15.8	4.8
TRUCK	3	4.24	1.1	88.87	24.1	725.4	26.0	2.55	1.06	10.1	0.5
*VEHICLE OWNER											
GSA	8	3.87	0.9	79.79	24.7	612.3	154.8	2.53	1.02	12.5	3.5
PRIVATE OWNER	7	3.64	1.0	72.54	13.3	431.2	161.9	1.85	1.14	17.2	5.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	6	3.52	1.0	81.92	21.6	576.4	164.9	2.41	1.20	13.0	3.2
NO CNV/NO APMP	9	3.92	0.9	72.74	19.0	495.4	189.7	2.08	1.07	15.8	5.6
*DISPLACEMENT											
LESS THAN 151	4	3.75	0.8	74.41	16.1	308.4	61.6	1.08	.62	20.8	3.8
151 - 250	2	3.56	0.1	72.42	1.7	374.9	46.3	2.28	.93	17.8	1.8
251 - 350	2	4.34	0.4	76.62	0.7	565.6	12.1	2.75	1.00	12.7	0.2
MORE THAN 350	7	3.66	1.3	78.63	27.9	686.0	52.7	2.68	1.04	10.9	1.1
*INERTIA WEIGHT											
1800 - 2799	3	3.86	1.0	66.56	4.3	295.8	68.7	1.20	.71	21.9	3.8
2800 - 3799	5	3.84	0.5	79.21	10.7	445.5	112.8	2.16	1.07	15.7	2.9
3800 - 4799	7	3.66	1.3	78.63	27.9	686.0	52.7	2.68	1.04	10.9	1.1
4800 - 5799	0										
ALL VEHICLES	15	3.76	1.0	76.41	19.9	527.8	178.8	2.21	1.09	14.7	4.9

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(MANU. TUNE-UP)

	# OF VEH.	HC MEAN	HC S.D.	CO MEAN	CO S.D.	CO2 MEAN	CO2 S.D.	NOX MEAN	NOX S.D.	MPG MEAN	MPG S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	2	3.52	0.6	40.21	3.3	606.7	26.8	3.35	.16	13.0	0.6
CHRYSLER	9	3.04	0.9	44.11	13.9	602.9	139.8	3.05	.91	13.5	2.8
FORD MOTOR CO.	1	2.06	0.0	78.00	0.0	395.5	0.0	0.57	0.00	16.9	0.0
GENERAL MOTORS	0										
IMPORTS	3	4.21	1.4	65.17	5.1	303.0	82.0	1.20	.70	22.0	5.5
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	10	3.19	1.0	44.03	15.2	608.2	132.6	3.19	.86	13.3	2.4
1974	5	3.43	1.1	62.11	10.3	372.4	121.8	1.30	.70	19.5	5.4
1975	0										
***VEHICLE TYPE**											
AUTOMOBILE	12	3.37	1.1	53.53	16.0	481.0	149.5	2.33	1.23	16.4	4.6
TRUCK	3	2.88	0.4	36.19	5.4	724.1	86.7	3.47	.61	11.3	1.2
***VEHICLE OWNER**											
GSA	8	3.05	0.6	40.79	13.2	600.6	145.5	3.12	.63	13.7	2.9
PRIVATE OWNER	7	3.53	1.4	60.66	12.2	448.5	167.5	1.91	1.43	17.3	5.6
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	6	2.93	0.8	50.30	17.3	587.6	162.2	2.90	1.20	13.6	2.8
NO CNV/NO APMP	9	3.49	1.1	49.90	16.1	491.0	172.4	2.33	1.23	16.5	5.4
***DISPLACEMENT**											
LESS THAN 151	4	3.67	1.5	68.38	7.7	326.1	81.3	1.04	.65	20.7	5.1
151 - 250	2	3.31	0.1	57.86	11.3	394.5	28.8	2.33	.57	18.0	1.7
251 - 350	2	4.12	0.7	55.33	3.8	577.6	41.2	2.89	1.93	13.1	0.6
MORE THAN 350	7	2.79	0.7	35.86	7.4	670.8	75.5	3.39	.37	12.2	1.2
***INERTIA WEIGHT**											
1800 - 2799	3	4.21	1.4	65.17	5.1	303.0	82.0	1.20	.70	22.0	5.5
2800 - 3799	5	3.38	0.9	60.88	11.3	468.0	103.2	2.20	1.39	15.8	2.7
3800 - 4799	7	2.79	0.7	35.86	7.4	670.8	75.5	3.39	.37	12.2	1.2
4800 - 5799	0										
ALL VEHICLES	15	3.27	1.0	50.06	16.0	529.6	169.6	2.56	1.21	15.3	4.6

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	2	3.52	0.6	40.21	3.3	606.7	26.8	3.35	.16	13.0	0.6
CHRYSLER	9	3.04	0.9	44.11	13.9	602.9	139.8	3.05	.91	13.5	2.8
FORD MOTOR CO.	1	2.06	0.0	78.00	0.0	395.5	0.0	0.57	0.00	16.9	0.0
GENERAL MOTORS	0										
IMPORTS	3	4.21	1.4	65.17	5.1	303.0	82.0	1.20	.70	22.0	5.5
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	10	3.19	1.0	44.03	15.2	608.2	132.6	3.19	.86	13.3	2.4
1974	5	3.43	1.1	62.11	10.3	372.4	121.8	1.30	.70	19.5	5.4
1975	0										
***VEHICLE TYPE**											
AUTOMOBILE	12	3.37	1.1	53.53	16.0	481.0	149.5	2.33	1.23	16.4	4.6
TRUCK	3	2.88	0.4	36.19	5.4	724.1	86.7	3.47	.61	11.3	1.2
***VEHICLE OWNER**											
GSA	8	3.05	0.6	40.79	13.2	600.6	145.5	3.12	.63	13.7	2.9
PRIVATE OWNER	7	3.53	1.4	60.66	12.2	448.5	167.5	1.91	1.43	17.3	5.6
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	6	2.93	0.8	50.30	17.3	587.6	162.2	2.90	1.20	13.6	2.8
NO CNV/NO APMP	9	3.49	1.1	49.90	16.1	491.0	172.4	2.33	1.23	16.5	5.4
***DISPLACEMENT**											
LESS THAN 151	4	3.67	1.5	68.38	7.7	326.1	81.3	1.04	.65	20.7	5.1
151 - 250	2	3.31	0.1	57.86	11.3	394.5	28.8	2.33	.57	18.0	1.7
251 - 350	2	4.12	0.7	55.33	3.8	577.6	41.2	2.89	1.93	13.1	0.6
MORE THAN 350	7	2.79	0.7	35.86	7.4	670.8	75.5	3.39	.37	12.2	1.2
***INERTIA WEIGHT**											
1800 - 2799	3	4.21	1.4	65.17	5.1	303.0	82.0	1.20	.70	22.0	5.5
2800 - 3799	5	3.38	0.9	60.88	11.3	468.0	103.2	2.20	1.39	15.8	2.7
3800 - 4799	7	2.79	0.7	35.86	7.4	670.8	75.5	3.39	.37	12.2	1.2
4800 - 5799	0										
ALL VEHICLES	15	3.27	1.0	50.06	16.0	529.6	169.6	2.56	1.21	15.3	4.6

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	2	0.78	0.3	51.23	31.1	40.9	54.0	-1.14	1.52	-1.9	1.3
CHRYSLER	9	0.61	0.9	29.85	20.2	-4.3	39.4	-0.34	.63	-0.7	0.8
FORD MOTOR CO.	1	1.34	0.0	19.95	0.0	-49.1	0.0	0.17	0.00	0.4	0.0
GENERAL MOTORS	0										
IMPORTS	3	-0.35	0.4	1.39	9.3	-7.2	13.3	-0.00	.07	-0.1	1.7
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	10	0.61	0.9	32.31	26.6	5.1	44.4	-0.55	.80	-0.8	1.2
1974	5	0.25	0.7	14.42	7.9	-15.6	25.2	0.06	.31	-0.4	1.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	12	0.27	0.5	19.77	19.8	-2.6	36.0	-0.20	.72	-0.5	1.1
TRUCK	3	1.36	1.4	52.68	19.5	1.3	61.0	-0.92	.46	-1.2	1.2
*VEHICLE OWNER											
GSA	8	0.82	0.9	39.00	24.3	11.7	47.7	-0.59	.87	-1.1	1.0
PRIVATE OWNER	7	0.12	0.6	11.89	11.5	-17.3	21.0	-0.06	.41	-0.1	1.0
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	6	0.59	0.5	31.61	23.6	-11.2	51.1	-0.49	.91	-0.6	1.2
NO CNV/NO APMP	9	0.43	1.0	22.84	24.0	4.4	31.2	-0.25	.62	-0.7	1.2
*DISPLACEMENT											
LESS THAN 151	4	0.07	0.9	6.03	12.0	-17.7	23.6	0.04	.10	0.0	1.4
151 - 250	2	0.25	0.0	14.56	9.5	-19.6	17.5	-0.05	.37	-0.1	0.1
251 - 350	2	0.22	0.3	21.29	4.5	-12.0	29.1	-0.14	.93	-0.4	0.4
MORE THAN 350	7	0.88	0.9	42.77	23.3	15.2	50.1	-0.71	.87	-1.3	1.1
*INERTIA WEIGHT											
1800 - 2799	3	-0.35	0.4	1.39	9.3	-7.2	13.3	-0.00	.07	-0.1	1.7
2800 - 3799	5	0.46	0.5	18.33	6.3	-22.5	22.9	-0.04	.51	-0.1	0.4
3800 - 4799	7	0.88	0.9	42.77	23.3	15.2	50.1	-0.71	.87	-1.3	1.1
4800 - 5799	0										
ALL VEHICLES	15	0.49	0.8	26.35	23.4	-1.8	39.4	-0.35	.73	-0.7	1.1

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	2	17.8	3.0	53.4	13.9	5.8	7.6	-108.2	150.5	-17.8	14.1
CHRYSLER	9	14.6	16.1	39.0	18.0	-1.2	6.3	-17.7	38.3	-6.3	8.4
FORD MOTOR CO.	1	39.4	0.0	20.4	0.0	-14.2	0.0	23.0	0.0	2.5	0.0
GENERAL MOTORS	0										
IMPORTS	3	-7.5	8.5	1.5	14.1	-1.7	4.7	-1.7	8.4	0.4	7.2
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	10	14.5	17.2	39.0	25.1	0.4	6.5	-37.6	71.1	-8.0	11.2
1974	5	7.8	18.9	18.5	9.9	-4.5	7.4	3.5	19.9	-1.8	4.7
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	12	8.2	14.2	25.6	21.0	-1.7	7.0	-17.3	63.9	-4.4	9.1
TRUCK	3	28.6	22.6	58.4	5.7	0.4	8.3	-50.0	51.1	-12.0	12.2
*VEHICLE OWNER											
GSA	8	19.1	15.1	46.7	18.4	1.1	7.5	-46.0	77.8	-10.7	10.7
PRIVATE OWNER	7	4.5	17.6	15.6	15.9	-3.9	5.7	1.4	18.1	-0.4	4.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	6	15.6	13.1	36.7	20.2	-2.8	8.7	-36.3	88.6	-5.7	11.4
NO CNV/NO APMP	9	10.0	20.2	29.2	25.6	-0.2	6.0	-15.6	38.6	-6.0	9.3
*DISPLACEMENT											
LESS THAN 151	4	4.2	24.5	6.2	14.9	-4.8	7.3	4.5	14.1	0.9	6.0
151 - 250	2	7.0	1.0	20.3	13.6	-5.6	5.4	-6.0	18.6	-0.8	0.4
251 - 350	2	5.4	7.1	27.8	5.6	-2.1	5.1	1.3	34.2	-3.4	3.3
MORE THAN 350	7	20.3	16.0	51.7	12.3	2.2	7.0	-52.4	81.4	-12.0	10.9
*INERTIA WEIGHT											
1800 - 2799	3	-7.5	8.5	1.5	14.1	-1.7	4.7	-1.7	8.4	0.4	7.2
2800 - 3799	5	12.9	15.3	23.3	8.4	-5.9	6.2	2.7	22.8	-1.2	2.9
3800 - 4799	7	20.3	16.0	51.7	12.3	2.2	7.0	-52.4	81.4	-12.0	10.9
4800 - 5799	0										
ALL VEHICLES	15	12.3	17.4	32.2	23.1	-1.3	7.0	-23.9	61.4	-5.9	9.8

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	2	3.96	0.5	34.46	16.9	589.9	12.3	3.40	1.36	13.5	0.8
CHRYSLER	9	3.77	1.8	38.41	20.9	549.4	101.9	3.95	.94	14.6	2.6
FORD MOTOR CO.	1	2.75	0.0	67.95	0.0	363.9	0.0	1.29	0.00	18.5	0.0
GENERAL MOTORS	0										
IMPORTS	3	3.86	1.2	40.36	4.2	300.3	66.6	1.95	1.06	24.3	5.3
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	10	3.59	1.0	34.43	13.1	561.1	102.2	3.89	1.09	14.5	2.6
1974	5	4.05	2.3	51.87	23.0	355.6	90.3	2.12	.93	21.0	6.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	12	3.64	1.6	42.24	19.4	460.8	136.2	2.99	1.30	17.6	5.2
TRUCK	3	4.15	0.9	32.26	12.1	619.9	37.5	4.56	.32	13.0	0.4
*VEHICLE OWNER											
GSA	8	3.65	0.8	33.98	14.1	553.5	101.1	3.94	.85	14.7	2.7
PRIVATE OWNER	7	3.85	2.1	47.40	20.9	423.0	148.5	2.57	1.44	18.9	6.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	6	3.45	1.3	44.37	16.9	529.8	111.7	3.38	1.31	14.8	2.4
NO CNV/NO APMP	9	3.94	1.7	37.49	19.6	467.8	154.6	3.25	1.41	17.9	5.9
*DISPLACEMENT											
LESS THAN 151	4	3.59	1.2	47.25	14.2	316.2	63.0	1.78	.93	22.8	5.2
151 - 250	2	3.09	0.4	44.18	18.4	395.6	30.1	3.52	.97	18.8	2.4
251 - 350	2	5.53	3.4	56.79	38.8	527.4	72.9	3.77	2.00	14.0	0.0
MORE THAN 350	7	3.51	1.2	30.38	11.4	611.2	29.4	3.97	.83	13.3	0.6
*INERTIA WEIGHT											
1800 - 2799	3	3.86	1.2	40.36	4.2	300.3	66.6	1.95	1.06	24.3	5.3
2800 - 3799	5	4.00	2.2	53.98	23.7	442.0	88.4	3.18	1.54	16.8	2.9
3800 - 4799	7	3.51	1.2	30.38	11.4	611.2	29.4	3.97	.83	13.3	0.6
4800 - 5799	0										
ALL VEHICLES	15	3.74	1.5	40.24	18.3	492.6	138.2	3.30	1.32	16.7	5.0

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	2	0.34	0.4	56.99	17.6	57.7	68.5	-1.18	.33	-2.4	1.1
CHRYSLER	9	-0.12	1.5	35.55	24.8	49.3	65.0	-1.24	.85	-1.8	1.0
FORD MOTOR CO.	1	0.65	0.0	30.00	0.0	-17.5	0.0	-0.55	0.00	-1.1	0.0
GENERAL MOTORS	0										
IMPORTS	3	0.00	0.3	26.21	7.9	-4.6	16.1	-0.75	.40	-2.4	1.5
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	10	0.21	0.9	41.92	21.5	52.2	59.9	-1.25	.78	-2.0	0.9
1974	5	-0.37	1.7	24.67	18.8	1.2	45.7	-0.77	.42	-1.8	1.3
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	12	0.00	1.1	31.06	19.0	17.6	45.5	-0.86	.50	-1.7	1.0
TRUCK	3	0.09	1.7	56.61	22.7	105.5	63.2	-2.00	.77	-2.9	0.6
*VEHICLE OWNER											
GSA	8	0.22	1.0	45.81	21.4	58.8	68.2	-1.41	.70	-2.2	1.0
PRIVATE OWNER	7	-0.21	1.4	25.15	17.2	8.2	34.6	-0.72	.55	-1.7	1.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	6	0.06	0.8	37.55	18.2	46.5	78.4	-0.96	.50	-1.8	1.2
NO CNV/NO APMP	9	-0.01	1.4	35.25	24.7	27.6	46.5	-1.17	.84	-2.1	0.9
*DISPLACEMENT											
LESS THAN 151	4	0.16	0.4	27.15	6.7	-7.8	14.6	-0.70	.34	-2.1	1.4
151 - 250	2	0.47	0.3	28.24	16.6	-20.6	16.3	-1.24	.04	-1.0	0.6
251 - 350	2	-1.19	3.0	19.83	39.5	38.2	60.8	-1.02	1.00	-1.3	0.2
MORE THAN 350	7	0.15	1.0	48.26	20.8	74.8	57.8	-1.29	.89	-2.4	0.9
*INERTIA WEIGHT											
1800 - 2799	3	0.00	0.3	26.21	7.9	-4.6	16.1	-0.75	.40	-2.4	1.5
2800 - 3799	5	-0.16	1.8	25.23	22.0	3.5	44.6	-1.02	.57	-1.2	0.4
3800 - 4799	7	0.15	1.0	48.26	20.8	74.8	57.8	-1.29	.89	-2.4	0.9
4800 - 5799	0										
ALL VEHICLES	15	0.02	1.2	36.17	21.7	35.2	59.3	-1.09	.71	-2.0	1.0

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	2	7.3	6.9	63.2	4.6	8.3	9.5	-82.4	77.1	-22.2	13.2
CHRYSLER	9	-2.6	33.8	47.5	26.4	6.5	10.1	-57.6	63.5	-16.1	10.8
FORD MOTOR CO.	1	19.1	0.0	30.6	0.0	-5.1	0.0	-74.3	0.0	-6.5	0.0
GENERAL MOTORS	0										
IMPORTS	3	1.4	8.8	39.0	9.9	-1.8	4.9	-71.3	33.7	-10.3	4.8
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	10	4.1	20.6	53.6	17.3	7.4	8.1	-63.4	64.3	-18.1	10.9
1974	5	-5.2	38.0	33.1	26.1	-1.7	9.4	-67.4	33.4	-9.1	3.9
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	12	2.1	25.0	42.7	22.1	1.8	8.1	-54.7	39.5	-11.7	7.6
TRUCK	3	-3.4	38.2	63.1	14.6	14.4	8.0	-105.1	96.1	-28.6	7.0
*VEHICLE OWNER											
GSA	8	3.1	22.4	56.7	16.2	7.5	10.4	-76.4	67.8	-20.0	11.5
PRIVATE OWNER	7	-1.4	32.4	35.4	23.3	0.7	7.0	-51.5	34.8	-9.5	3.3
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	6	2.5	22.5	45.7	16.8	5.8	11.1	-55.4	45.7	-16.3	13.6
NO CNV/NO APMP	9	-0.1	30.3	47.5	25.9	3.4	8.6	-71.0	61.7	-14.3	7.7
*DISPLACEMENT											
LESS THAN 151	4	5.8	11.4	36.9	9.1	-2.6	4.3	-72.1	27.5	-9.4	4.4
151 - 250	2	13.5	7.8	39.3	23.9	-5.8	5.1	-59.3	22.7	-5.5	2.9
251 - 350	2	-24.2	66.1	25.7	51.3	6.9	10.9	-32.8	24.3	-10.4	1.7
MORE THAN 350	7	1.8	23.7	60.6	10.2	10.5	7.6	-71.3	77.2	-22.5	10.0
*INERTIA WEIGHT											
1800 - 2799	3	1.4	8.8	39.0	9.9	-1.8	4.9	-71.3	33.7	-10.3	4.8
2800 - 3799	5	-0.5	39.8	32.1	29.1	-0.6	9.1	-51.7	24.7	-7.7	3.0
3800 - 4799	7	1.8	23.7	60.6	10.2	10.5	7.6	-71.3	77.2	-22.5	10.0
4800 - 5799	0										
ALL VEHICLES	15	1.0	26.6	46.8	22.0	4.3	9.4	-64.8	54.6	-15.1	10.0

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	2	3.96	0.5	34.46	16.9	589.9	12.3	3.40	1.36	13.5	0.8
CHRYSLER	9	3.77	1.8	38.41	20.9	549.4	101.9	3.95	.94	14.6	2.6
FORD MOTOR CO.	1	2.75	0.0	67.95	0.0	363.9	0.0	1.29	0.00	18.5	0.0
GENERAL MOTORS	0										
IMPORTS	3	3.86	1.2	40.36	4.2	300.3	66.6	1.95	1.06	24.3	5.3
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	10	3.59	1.0	34.43	13.1	561.1	102.2	3.89	1.09	14.5	2.6
1974	5	4.05	2.3	51.87	23.0	355.6	90.3	2.12	.93	21.0	6.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	12	3.64	1.6	42.24	19.4	460.8	136.2	2.99	1.30	17.6	5.2
TRUCK	3	4.15	0.9	32.26	12.1	619.9	37.5	4.56	.32	13.0	0.4
*VEHICLE OWNER											
GSA	8	3.65	0.8	33.98	14.1	553.5	101.1	3.94	.85	14.7	2.7
PRIVATE OWNER	7	3.85	2.1	47.40	20.9	423.0	148.5	2.57	1.44	18.9	6.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	6	3.45	1.3	44.37	16.9	529.8	111.7	3.38	1.31	14.8	2.4
NO CNV/NO APMP	9	3.94	1.7	37.49	19.6	467.8	154.6	3.25	1.41	17.9	5.9
*DISPLACEMENT											
LESS THAN 151	4	3.59	1.2	47.25	14.2	316.2	63.0	1.78	.93	22.8	5.2
151 - 250	2	3.09	0.4	44.18	18.4	395.6	30.1	3.52	.97	18.8	2.4
251 - 350	2	5.53	3.4	56.79	38.8	527.4	72.9	3.77	2.00	14.0	0.0
MORE THAN 350	7	3.51	1.2	30.38	11.4	611.2	29.4	3.97	.83	13.3	0.6
*INERTIA WEIGHT											
1800 - 2799	3	3.86	1.2	40.36	4.2	300.3	66.6	1.95	1.06	24.3	5.3
2800 - 3799	5	4.00	2.2	53.98	23.7	442.0	88.4	3.18	1.54	16.8	2.9
3800 - 4799	7	3.51	1.2	30.38	11.4	611.2	29.4	3.97	.83	13.3	0.6
4800 - 5799	0										
ALL VEHICLES	15	3.74	1.5	40.24	18.3	492.6	138.2	3.30	1.32	16.7	5.0

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	2	-0.44	0.1	5.76	13.5	16.8	14.5	-0.04	1.20	-0.5	0.2
CHRYSLER	9	-0.73	1.2	5.70	14.6	53.5	75.3	-0.90	.47	-1.1	0.9
FORD MOTOR CO.	1	-0.69	0.0	10.05	0.0	31.6	0.0	-0.72	0.00	-1.6	0.0
GENERAL MOTORS	0										
IMPORTS	3	0.35	0.2	24.81	2.6	2.7	22.0	-0.75	.38	-2.3	0.6
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	10	-0.40	0.7	9.61	10.3	47.1	70.9	-0.70	.70	-1.2	1.1
1974	5	-0.62	1.6	10.24	21.3	16.9	35.6	-0.83	.26	-1.4	0.6
1975	0										
***VEHICLE TYPE**											
AUTOMOBILE	12	-0.27	1.1	11.29	15.0	20.2	24.2	-0.66	.60	-1.2	0.8
TRUCK	3	-1.28	0.5	3.93	8.8	104.3	122.5	-1.09	.35	-1.7	1.6
***VEHICLE OWNER**											
GSA	8	-0.61	0.7	6.81	8.6	47.1	81.7	-0.82	.71	-1.1	1.0
PRIVATE OWNER	7	-0.32	1.4	13.26	18.6	25.5	28.8	-0.66	.42	-1.6	0.8
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	6	-0.52	0.7	5.94	8.7	57.7	92.9	-0.48	.81	-1.2	1.2
NO CNV/NO APMP	9	-0.44	1.2	12.41	16.7	23.2	27.3	-0.92	.29	-1.4	0.8
***DISPLACEMENT**											
LESS THAN 151	4	0.09	0.5	21.12	7.7	9.9	23.1	-0.74	.31	-2.1	0.6
151 - 250	2	0.22	0.2	13.68	7.1	-1.0	1.3	-1.19	.40	-0.9	0.7
251 - 350	2	-1.41	2.7	-1.46	35.0	50.2	31.7	-0.89	.07	-0.9	0.6
MORE THAN 350	7	-0.73	0.6	5.48	8.0	59.6	82.7	-0.58	.77	-1.1	1.1
***INERTIA WEIGHT**											
1800 - 2799	3	0.35	0.2	24.81	2.6	2.7	22.0	-0.75	.38	-2.3	0.6
2800 - 3799	5	-0.61	1.6	6.90	19.5	26.0	30.3	-0.98	.29	-1.0	0.6
3800 - 4799	7	-0.73	0.6	5.48	8.0	59.6	82.7	-0.58	.77	-1.1	1.1
4800 - 5799	0										
ALL VEHICLES	15	-0.47	1.0	9.82	14.0	37.0	61.8	-0.74	.58	-1.3	0.9

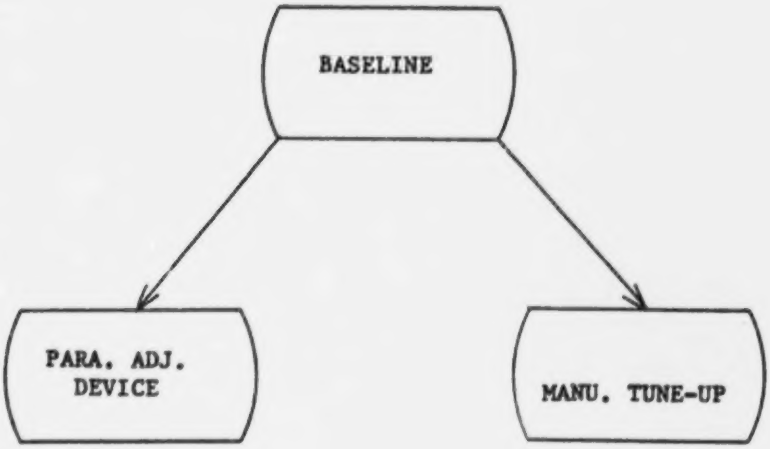
PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	2	-12.7	4.3	15.8	34.9	2.7	2.3	-0.5	35.6	-3.8	1.2
CHRYSLER	9	-21.3	32.1	14.7	28.7	7.5	9.3	-33.3	20.1	-9.4	9.9
FORD MOTOR CO.	1	-33.5	0.0	12.9	0.0	8.0	0.0	-126.3	0.0	-9.4	0.0
GENERAL MOTORS	0										
IMPORTS	3	8.3	2.4	38.1	3.4	-0.2	7.1	-67.4	19.1	-11.0	4.9
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	10	-14.7	24.2	20.8	20.6	6.8	8.5	-25.1	25.1	-9.8	9.7
1974	5	-15.6	36.5	16.6	36.4	2.6	7.9	-75.8	32.3	-7.2	2.4
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	12	-7.9	25.9	21.2	26.2	3.4	5.2	-44.2	40.0	-7.2	4.0
TRUCK	3	-43.5	10.0	12.3	26.6	13.3	14.4	-33.2	16.5	-15.9	16.5
*VEHICLE OWNER											
GSA	8	-21.3	22.5	17.1	21.2	6.2	9.9	-28.5	25.3	-8.8	10.7
PRIVATE OWNER	7	-7.8	32.6	22.0	31.4	4.4	6.6	-57.4	42.4	-9.2	4.0
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	6	-16.7	24.3	11.6	21.3	8.1	11.1	-32.7	53.1	-10.4	12.2
NO CNV/NO APMP	9	-13.9	30.9	24.6	28.0	3.6	5.8	-48.2	20.7	-8.0	4.0
*DISPLACEMENT											
LESS THAN 151	4	-2.1	21.0	31.8	12.9	1.8	7.1	-82.1	33.3	-10.6	4.1
151 - 250	2	7.0	7.3	25.3	17.2	-0.2	0.3	-50.7	5.0	-4.7	3.3
251 - 350	2	-29.1	60.3	-0.5	63.2	8.9	6.1	-38.7	23.4	-6.9	5.0
MORE THAN 350	7	-24.6	22.1	16.3	21.7	8.0	9.8	-17.5	24.7	-9.9	11.2
*INERTIA WEIGHT											
1800 - 2799	3	8.3	2.4	38.1	3.4	-0.2	7.1	-67.4	19.1	-11.0	4.9
2800 - 3799	5	-15.5	36.7	12.5	35.2	5.1	5.7	-61.0	38.9	-6.5	3.6
3800 - 4799	7	-24.6	22.1	16.3	21.7	8.0	9.8	-17.5	24.7	-9.9	11.2
4800 - 5799	0										
ALL VEHICLES	15	-15.0	27.5	19.4	25.6	5.4	8.2	-42.0	36.3	-9.0	8.0

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

1973-1974 VEHICLES

DATA SET 5
10 VEHICLES


BASELINE
PARA. ADJ. DEVICE
MANU. TUNE-UP

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	3.69	0.0	115.81	0.0	704.8	0.0	1.03	0.00	9.9	0.0
CHRYSLER	8	3.57	1.3	74.99	19.7	626.4	111.6	2.68	.73	12.0	2.2
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	4.72	0.0	62.29	0.0	349.1	0.0	1.21	0.00	19.2	0.0
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	9	3.59	1.2	77.99	23.6	612.0	143.0	2.41	.97	12.5	3.3
1974	1	4.65	0.0	76.14	0.0	557.1	0.0	2.04	0.00	12.8	0.0
1975	0										
***VEHICLE TYPE**											
AUTOMOBILE	7	3.47	1.2	73.06	21.5	555.5	131.8	2.29	.94	13.6	3.2
TRUCK	3	4.24	1.1	88.87	24.1	725.4	26.0	2.55	1.06	10.1	0.5
***VEHICLE OWNER**											
GSA	6	3.62	1.2	84.26	26.6	655.2	126.5	2.31	.95	11.5	2.7
PRIVATE OWNER	4	3.81	1.4	68.11	10.1	533.4	129.9	2.46	1.03	14.1	3.4
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.20	0.9	81.62	24.8	630.3	154.1	2.58	1.04	12.1	3.2
NO CNV/NO APMP	6	4.03	1.3	75.26	22.5	590.6	135.0	2.23	.91	12.9	3.3
***DISPLACEMENT**											
LESS THAN 151	1	4.72	0.0	62.29	0.0	349.1	0.0	1.21	0.00	19.2	0.0
151 - 250	1	3.64	0.0	73.65	0.0	407.7	0.0	2.94	0.00	16.6	0.0
251 - 350	2	4.34	0.4	76.62	0.7	565.6	12.1	2.75	1.00	12.7	0.2
MORE THAN 350	6	3.32	1.4	81.47	28.7	696.1	41.8	2.34	.97	10.7	1.1
***INERTIA WEIGHT**											
1800 - 2799	1	4.72	0.0	62.29	0.0	349.1	0.0	1.21	0.00	19.2	0.0
2800 - 3799	3	4.11	0.5	75.63	1.8	513.0	91.6	2.81	.72	14.0	2.3
3800 - 4799	6	3.32	1.4	81.47	28.7	696.1	41.8	2.34	.97	10.7	1.1
4800 - 5799	0										
ALL VEHICLES	10	3.70	1.2	77.80	22.3	606.5	135.9	2.37	[illegible]2	12.5	3.1

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	3.11	0.0	42.58	0.0	625.7	0.0	3.24	0.00	12.6	0.0
CHRYSLER	8	2.95	1.0	44.71	12.7	639.9	120.3	3.15	.87	12.6	2.0
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	5.38	0.0	70.84	0.0	365.1	0.0	1.13	0.00	18.0	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	9	3.05	1.1	45.90	14.3	618.0	143.3	3.11	.92	13.1	2.6
1974	1	4.63	0.0	58.00	0.0	548.5	0.0	1.52	0.00	13.6	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	7	3.35	1.4	51.79	14.1	562.5	128.3	2.73	1.09	13.9	2.5
TRUCK	3	2.88	0.4	36.19	5.4	724.1	86.7	3.47	.61	11.3	1.2
*VEHICLE OWNER											
GSA	6	2.78	0.7	41.53	12.8	651.6	133.8	3.20	.52	12.5	2.3
PRIVATE OWNER	4	3.84	1.6	55.48	12.6	550.1	134.5	2.59	1.50	14.0	2.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	2.90	0.8	46.49	13.1	635.5	168.7	3.34	.49	12.8	2.9
NO CNV/NO APMP	6	3.41	1.4	47.52	15.8	594.7	125.9	2.70	1.21	13.3	2.4
*DISPLACEMENT											
LESS THAN 151	1	5.38	0.0	70.84	0.0	365.1	0.0	1.13	0.00	18.0	0.0
151 - 250	1	3.41	0.0	65.83	0.0	414.9	0.0	2.73	0.00	16.8	0.0
251 - 350	2	4.12	0.7	55.33	3.8	577.6	41.2	2.89	1.93	13.1	0.6
MORE THAN 350	6	2.51	0.7	37.30	5.0	695.8	67.2	3.32	.47	11.7	0.9
*INERTIA WEIGHT											
1800 - 2799	1	5.38	0.0	70.84	0.0	365.1	0.0	1.13	0.00	18.0	0.0
2800 - 3799	3	3.88	0.7	58.83	6.6	523.4	98.4	2.83	1.37	14.3	2.2
3800 - 4799	6	2.51	0.7	37.30	5.0	695.8	67.2	3.32	.47	11.7	0.9
4800 - 5799	0										
ALL VEHICLES	10	3.21	1.2	47.11	14.0	611.0	136.9	2.95	1.00	13.1	2.4

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	3.11	0.0	42.58	0.0	625.7	0.0	3.24	0.00	12.6	0.0
CHRYSLER	8	2.95	1.0	44.71	12.7	639.9	120.3	3.15	.87	12.6	2.0
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	5.38	0.0	70.84	0.0	365.1	0.0	1.13	0.00	18.0	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	9	3.05	1.1	45.90	14.3	618.0	143.3	3.11	.92	13.1	2.6
1974	1	4.63	0.0	58.00	0.0	548.5	0.0	1.52	0.00	13.6	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	7	3.35	1.4	51.79	14.1	562.5	128.3	2.73	1.09	13.9	2.5
TRUCK	3	2.88	0.4	36.19	5.4	724.1	86.7	3.47	.61	11.3	1.2
*VEHICLE OWNER											
GSA	6	2.78	0.7	41.53	12.8	651.6	133.8	3.20	.52	12.5	2.3
PRIVATE OWNER	4	3.84	1.6	55.48	12.6	550.1	134.5	2.59	1.50	14.0	2.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	2.90	0.8	46.49	13.1	635.5	168.7	3.34	.49	12.8	2.9
NO CNV/NO APMP	6	3.41	1.4	47.52	15.8	594.7	125.9	2.70	1.21	13.3	2.4
*DISPLACEMENT											
LESS THAN 151	1	5.38	0.0	70.84	0.0	365.1	0.0	1.13	0.00	18.0	0.0
151 - 250	1	3.41	0.0	65.83	0.0	414.9	0.0	2.73	0.00	16.8	0.0
251 - 350	2	4.12	0.7	55.33	3.8	577.6	41.2	2.89	1.93	13.1	0.6
MORE THAN 350	6	2.51	0.7	37.30	5.0	695.8	67.2	3.32	.47	11.7	0.9
*INERTIA WEIGHT											
1800 - 2799	1	5.38	0.0	70.84	0.0	365.1	0.0	1.13	0.00	18.0	0.0
2800 - 3799	3	3.88	0.7	58.83	6.6	523.4	98.4	2.83	1.37	14.3	2.2
3800 - 4799	6	2.51	0.7	37.30	5.0	695.8	67.2	3.32	.47	11.7	0.9
4800 - 5799	0										
ALL VEHICLES	10	3.21	1.2	47.11	14.0	611.0	136.9	2.95	1.00	13.1	2.4

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	0.58	0.0	73.23	0.0	79.1	0.0	-2.21	0.00	-2.7	0.0
CHRYSLER	8	0.62	1.0	30.28	21.7	-13.5	39.4	-0.46	.61	-0.5	0.9
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	-0.66	0.0	-8.55	0.0	-16.0	0.0	0.08	0.00	1.2	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	9	0.54	1.0	32.08	28.5	-6.0	48.0	-0.71	.75	-0.6	1.3
1974	1	0.02	0.0	18.14	0.0	8.6	0.0	0.52	0.00	-0.7	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	7	0.12	0.4	21.26	25.3	-7.0	42.9	-0.44	.90	-0.3	1.2
TRUCK	3	1.36	1.4	52.68	19.5	1.3	61.0	-0.92	.46	-1.2	1.2
*VEHICLE OWNER											
GSA	6	0.84	1.0	42.73	27.8	3.5	57.7	-0.88	.84	-1.0	1.3
PRIVATE OWNER	4	-0.04	0.5	12.63	14.5	-16.6	18.1	-0.13	.56	0.1	0.8
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	0.30	0.2	35.12	29.5	-5.2	61.4	-0.76	1.04	-0.7	1.3
NO CNV/NO APMP	6	0.62	1.2	27.73	28.0	-4.1	38.3	-0.47	.69	-0.5	1.3
*DISPLACEMENT											
LESS THAN 151	1	-0.66	0.0	-8.55	0.0	-16.0	0.0	0.08	0.00	1.2	0.0
151 - 250	1	0.23	0.0	7.82	0.0	-7.2	0.0	0.21	0.00	-0.2	0.0
251 - 350	2	0.22	0.3	21.29	4.5	-12.0	29.1	-0.14	.93	-0.4	0.4
MORE THAN 350	6	0.82	1.1	44.17	25.7	0.3	59.0	-0.98	.71	-1.0	1.3
*INERTIA WEIGHT											
1800 - 2799	1	-0.66	0.0	-8.55	0.0	-16.0	0.0	0.08	0.00	1.2	0.0
2800 - 3799	3	0.22	0.2	16.80	8.4	-10.4	20.8	-0.02	.68	-0.3	0.3
3800 - 4799	6	0.82	1.1	44.17	25.7	0.3	59.0	-0.98	.71	-1.0	1.3
4800 - 5799	0										
ALL VEHICLES	10	0.49	0.9	30.69	27.2	-4.5	45.5	-0.58	.80	-0.6	1.2

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	15.7	0.0	63.2	0.0	11.2	0.0	-214.6	0.0	-27.8	0.0
CHRYSLER	8	14.5	17.1	38.1	18.5	-2.2	5.7	-22.0	39.3	-5.0	9.1
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	-14.0	0.0	-13.7	0.0	-4.6	0.0	6.6	0.0	6.4	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	9	13.1	18.2	36.8	26.2	-1.4	7.0	-45.5	72.0	-6.2	12.3
1974	1	0.4	0.0	23.8	0.0	1.5	0.0	25.5	0.0	-5.7	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	7	4.6	9.5	25.6	23.5	-1.7	6.5	-33.4	81.9	-3.7	11.3
TRUCK	3	28.6	22.6	58.4	5.7	0.4	8.3	-50.0	51.1	-12.0	12.2
*VEHICLE OWNER											
GSA	6	19.6	17.7	47.3	20.9	0.3	8.2	-63.7	83.8	-10.2	13.3
PRIVATE OWNER	4	0.2	10.3	17.7	21.2	-3.2	3.2	-0.4	21.1	-0.1	5.0
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	8.6	5.1	39.1	23.9	-0.8	8.6	-59.8	103.8	-7.3	13.7
NO CNV/NO APMP	6	14.0	23.0	33.0	27.7	-1.2	6.0	-24.0	46.1	-5.4	11.3
*DISPLACEMENT											
LESS THAN 151	1	-14.0	0.0	-13.7	0.0	-4.6	0.0	6.6	0.0	6.4	0.0
151 - 250	1	6.3	0.0	10.6	0.0	-1.8	0.0	7.1	0.0	-1.1	0.0
251 - 350	2	5.4	7.1	27.8	5.6	-2.1	5.1	1.3	34.2	-3.4	3.3
MORE THAN 350	6	19.1	18.1	50.4	15.0	-0.0	8.4	-66.7	81.0	-10.0	13.5
*INERTIA WEIGHT											
1800 - 2799	1	-14.0	0.0	-13.7	0.0	-4.6	0.0	6.6	0.0	6.4	0.0
2800 - 3799	3	5.7	5.0	22.0	10.7	-2.0	3.6	3.3	24.4	-2.6	2.7
3800 - 4799	6	19.1	18.1	50.4	15.0	-0.0	8.4	-66.7	81.0	-10.0	13.5
4800 - 5799	0										
ALL VEHICLES	10	11.8	17.6	35.5	25.0	-1.1	6.7	-38.4	71.5	-6.2	11.6

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	4.91	0.0	33.34	0.0	598.5	0.0	3.51	0.00	13.3	0.0
CHRYSLER	8	3.19	1.0	37.49	10.4	583.2	89.7	3.87	1.06	13.8	1.8
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	4.19	0.0	41.63	0.0	335.4	0.0	1.80	0.00	21.4	0.0
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	9	3.36	1.1	36.15	8.9	566.9	116.4	3.74	1.15	14.4	3.1
1974	1	4.36	0.0	49.50	0.0	497.7	0.0	2.64	0.00	15.1	0.0
1975	0										
***VEHICLE TYPE**											
AUTOMOBILE	7	3.31	1.2	40.40	9.7	522.6	110.5	3.59	1.18	15.3	3.1
TRUCK	3	3.80	0.9	30.70	3.4	647.2	57.9	3.73	1.30	12.6	0.9
***VEHICLE OWNER**											
GSA	6	3.45	1.2	36.21	10.0	591.4	96.6	3.74	.84	13.7	2.0
PRIVATE OWNER	4	3.48	1.0	39.40	9.4	512.7	130.5	3.47	1.63	15.8	3.9
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.35	1.5	39.60	11.4	578.1	111.3	4.06	.78	13.9	2.4
NO CNV/NO APMP	6	3.54	0.9	36.08	8.6	547.8	121.0	3.34	1.31	14.9	3.3
***DISPLACEMENT**											
LESS THAN 151	1	4.19	0.0	41.63	0.0	335.4	0.0	1.80	0.00	21.4	0.0
151 - 250	1	2.09	0.0	55.62	0.0	416.6	0.0	3.64	0.00	17.4	0.0
251 - 350	2	3.80	0.8	38.17	16.0	542.6	63.6	4.10	2.06	14.5	0.8
MORE THAN 350	6	3.45	1.2	33.55	4.3	627.0	44.7	3.78	.84	12.9	0.7
***INERTIA WEIGHT**											
1800 - 2799	1	4.19	0.0	41.63	0.0	335.4	0.0	1.80	0.00	21.4	0.0
2800 - 3799	3	3.23	1.1	43.99	15.2	500.6	85.5	3.94	1.48	15.4	1.8
3800 - 4799	6	3.45	1.2	33.55	4.3	627.0	44.7	3.78	.84	12.9	0.7
4800 - 5799	0										
ALL VEHICLES	10	3.46	1.1	37.49	9.4	560.0	111.9	3.63	1.14	14.5	2.9

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--PARA ADJ/DEVICE)

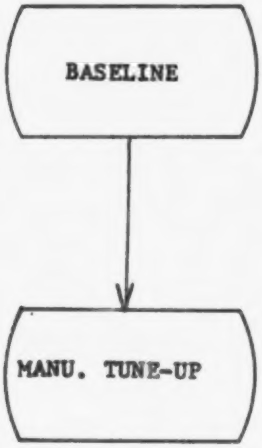
	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	-1.22	0.0	82.47	0.0	106.3	0.0	-2.48	0.00	-3.4	0.0
CHRYSLER	8	0.38	1.2	37.50	25.1	43.2	49.3	-1.19	.75	-1.7	0.8
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	0.53	0.0	20.66	0.0	13.7	0.0	-0.59	0.00	-2.2	0.0
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	9	0.23	1.3	41.83	28.3	45.1	51.9	-1.33	.82	-1.9	0.9
1974	1	0.29	0.0	26.64	0.0	59.4	0.0	-0.60	0.00	-2.2	0.0
1975	0										
***VEHICLE TYPE**											
AUTOMOBILE	7	0.15	0.9	32.66	25.2	33.0	42.3	-1.30	.81	-1.7	1.0
TRUCK	3	0.44	1.9	58.17	27.1	78.2	57.9	-1.17	.97	-2.5	0.5
***VEHICLE OWNER**											
GSA	6	0.18	1.6	48.05	31.8	63.7	54.0	-1.42	.88	-2.2	1.0
PRIVATE OWNER	4	0.33	0.5	28.71	14.9	20.7	30.1	-1.01	.72	-1.7	0.7
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	-0.15	1.2	42.01	31.0	52.2	54.2	-1.48	.89	-1.8	1.3
NO CNV/NO APMP	6	0.49	1.2	39.18	27.3	42.8	50.5	-1.11	.80	-2.0	0.6
***DISPLACEMENT**											
LESS THAN 151	1	0.53	0.0	20.66	0.0	13.7	0.0	-0.59	0.00	-2.2	0.0
151 - 250	1	1.55	0.0	18.03	0.0	-8.9	0.0	-0.70	0.00	-0.8	0.0
251 - 350	2	0.53	0.3	38.45	16.7	23.0	51.5	-1.35	1.05	-1.8	0.6
MORE THAN 350	6	-0.13	1.4	47.92	32.0	69.1	46.4	-1.43	.87	-2.2	1.0
***INERTIA WEIGHT**											
1800 - 2799	1	0.53	0.0	20.66	0.0	13.7	0.0	-0.59	0.00	-2.2	0.0
2800 - 3799	3	0.87	0.6	31.64	16.7	12.4	40.8	-1.13	.83	-1.5	0.7
3800 - 4799	6	-0.13	1.4	47.92	32.0	69.1	46.4	-1.43	.87	-2.2	1.0
4800 - 5799	0										
ALL VEHICLES	10	0.24	1.2	40.31	27.1	46.5	49.2	-1.26	.81	-2.0	0.9

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	-33.1	0.0	71.2	0.0	15.1	0.0	-240.8	0.0	-34.8	0.0
CHRYSLER	8	3.7	30.8	46.5	19.9	6.2	7.2	-49.2	35.4	-15.4	8.4
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	11.2	0.0	33.2	0.0	3.9	0.0	-48.8	0.0	-11.6	0.0
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	9	0.2	31.5	49.0	20.5	6.5	7.3	-72.6	70.8	-16.9	10.4
1974	1	6.2	0.0	35.0	0.0	10.7	0.0	-29.4	0.0	-17.4	0.0
1975	0										
***VEHICLE TYPE**											
AUTOMOBILE	7	-0.5	28.5	40.9	19.1	5.2	6.5	-72.8	77.1	-13.8	10.1
TRUCK	3	3.8	39.1	63.3	12.5	10.7	8.1	-57.8	53.5	-24.3	3.5
***VEHICLE OWNER**											
GSA	6	-2.2	37.8	52.1	22.2	8.8	7.8	-86.6	84.8	-20.5	11.1
PRIVATE OWNER	4	5.2	15.1	40.9	16.3	3.9	5.3	-40.8	16.7	-11.7	4.3
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	-5.9	33.3	47.2	23.2	7.0	7.8	-87.5	103.6	-17.3	14.1
NO CNV/NO APMP	6	5.2	29.5	47.9	19.6	6.8	7.2	-55.5	37.8	-16.8	7.3
***DISPLACEMENT**											
LESS THAN 151	1	11.2	0.0	33.2	0.0	3.9	0.0	-48.8	0.0	-11.6	0.0
151 - 250	1	42.6	0.0	24.5	0.0	-2.2	0.0	-23.8	0.0	-4.8	0.0
251 - 350	2	12.8	9.3	50.1	21.4	4.2	9.2	-44.9	21.9	-14.0	4.7
MORE THAN 350	6	-11.9	30.8	53.0	20.8	9.8	6.4	-86.8	84.7	-20.9	10.5
***INERTIA WEIGHT**											
1800 - 2799	1	11.2	0.0	33.2	0.0	3.9	0.0	-48.8	0.0	-11.6	0.0
2800 - 3799	3	22.7	18.4	41.6	21.1	2.0	7.5	-37.9	19.7	-10.9	6.3
3800 - 4799	6	-11.9	30.8	53.0	20.8	9.8	6.4	-86.8	84.7	-20.9	10.5
4800 - 5799	0										
ALL VEHICLES	10	0.8	29.7	47.6	19.9	6.9	7.0	-68.3	68.2	-17.0	9.8

1973-1974 VEHICLES

DATA SET 6
16 VEHICLES


BASELINE
MANU. TUNE-UP

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	2	4.30	0.9	91.44	34.5	647.6	80.8	2.22	1.68	11.2	1.8
CHRYSLER	10	3.45	1.2	71.51	19.9	603.0	135.4	2.66	.79	12.7	2.9
FORD MOTOR CO.	1	3.40	0.0	97.95	0.0	346.4	0.0	0.74	0.00	17.4	0.0
GENERAL MOTORS	0										
IMPORTS	3	3.86	1.0	66.56	4.3	295.8	68.7	1.20	.71	21.9	3.8
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	11	3.61	1.2	73.91	23.6	615.9	129.6	2.60	.97	12.4	3.0
1974	5	3.68	0.7	76.54	12.4	356.8	123.5	1.36	.70	19.2	4.9
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	13	3.49	1.0	71.47	18.9	491.0	164.5	2.14	1.08	15.6	4.7
TRUCK	3	4.24	1.1	88.87	24.1	725.4	26.0	2.55	1.06	10.1	0.5
*VEHICLE OWNER											
GSA	9	3.63	1.1	76.43	25.2	615.7	145.2	2.50	.96	12.5	3.3
PRIVATE OWNER	7	3.64	1.0	72.54	13.3	431.2	161.9	1.85	1.14	17.2	5.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	6	3.52	1.0	81.92	21.6	576.4	164.9	2.41	1.20	13.0	3.2
NO CNV/NO APMP	10	3.70	1.1	70.42	19.4	510.1	184.8	2.09	1.01	15.5	5.4
*DISPLACEMENT											
LESS THAN 151	4	3.75	0.8	74.41	16.1	308.4	61.6	1.08	.62	20.8	3.8
151 - 250	2	3.56	0.1	72.42	1.7	374.9	46.3	2.28	.93	17.8	1.8
251 - 350	2	4.34	0.4	76.62	0.7	565.6	12.1	2.75	1.00	12.7	0.2
MORE THAN 350	8	3.42	1.4	74.99	27.8	680.5	51.1	2.63	.98	11.1	1.1
*INERTIA WEIGHT											
1800 - 2799	3	3.86	1.0	66.56	4.3	295.8	68.7	1.20	.71	21.9	3.8
2800 - 3799	5	3.84	0.5	79.21	10.7	445.5	112.8	2.16	1.07	15.7	2.9
3800 - 4799	8	3.42	1.4	74.99	27.8	680.5	51.1	2.63	.98	11.1	1.1
4800 - 5799	0										
ALL VEHICLES	16	3.63	1.1	74.73	20.3	535.0	175.1	2.21	1.06	14.5	4.7

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF VEH.	HC MEAN	HC S.D.	CO MEAN	CO S.D.	CO2 MEAN	CO2 S.D.	NOX MEAN	NOX S.D.	MPG MEAN	MPG S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	2	3.52	0.6	40.21	3.3	606.7	26.8	3.35	.16	13.0	0.6
CHRYSLER	10	2.89	0.9	42.92	13.6	612.3	135.1	3.03	.86	13.3	2.7
FORD MOTOR CO.	1	2.06	0.0	78.00	0.0	395.5	0.0	0.57	0.00	16.9	0.0
GENERAL MOTORS	0										
IMPORTS	3	4.21	1.4	65.17	5.1	303.0	82.0	1.20	.70	22.0	5.5
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	11	3.04	1.1	42.96	14.8	616.3	128.6	3.15	.83	13.1	2.3
1974	5	3.43	1.1	62.11	10.3	372.4	121.8	1.30	.70	19.5	5.4
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	13	3.23	1.2	51.89	16.4	497.6	155.2	2.37	1.19	16.0	4.6
TRUCK	3	2.88	0.4	36.19	5.4	724.1	86.7	3.47	.61	11.3	1.2
*VEHICLE OWNER											
GSA	9	2.88	0.7	39.84	12.6	611.3	139.8	3.08	.60	13.4	2.8
PRIVATE OWNER	7	3.53	1.4	60.66	12.2	448.5	167.5	1.91	1.43	17.3	5.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	6	2.93	0.8	50.30	17.3	587.6	162.2	2.90	1.20	13.6	2.8
NO CNV/NO APMP	10	3.30	1.2	48.13	16.2	511.6	175.1	2.38	1.17	16.0	5.3
*DISPLACEMENT											
LESS THAN 151	4	3.67	1.5	68.38	7.7	326.1	81.3	1.04	.65	20.7	5.1
151 - 250	2	3.31	0.1	57.86	11.3	394.5	28.8	2.33	.57	18.0	1.7
251 - 350	2	4.12	0.7	55.33	3.8	577.6	41.2	2.89	1.93	13.1	0.6
MORE THAN 350	8	2.63	0.8	35.41	7.0	674.0	70.5	3.32	.40	12.1	1.1
*INERTIA WEIGHT											
1800 - 2799	3	4.21	1.4	65.17	5.1	303.0	82.0	1.20	.70	22.0	5.5
2800 - 3799	5	3.38	0.9	60.88	11.3	468.0	103.2	2.20	1.39	15.8	2.7
3800 - 4799	8	2.63	0.8	35.41	7.0	674.0	70.5	3.32	.40	12.1	1.1
4800 - 5799	0										
ALL VEHICLES	16	3.16	1.1	48.95	16.1	540.1	169.1	2.57	1.17	15.1	4.6

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	2	0.78	0.3	51.23	31.1	40.9	54.0	-1.14	1.52	-1.9	1.3
CHRYSLER	10	0.57	0.9	28.59	19.5	-9.3	40.4	-0.36	.60	-0.6	0.9
FORD MOTOR CO.	1	1.34	0.0	19.95	0.0	-49.1	0.0	0.17	0.00	0.4	0.0
GENERAL MOTORS	0										
IMPORTS	3	-0.35	0.4	1.39	9.3	-7.2	13.3	-0.00	.07	-0.1	1.7
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	11	0.57	0.9	30.95	25.6	-0.3	45.8	-0.55	.76	-0.7	1.2
1974	5	0.25	0.7	14.42	7.9	-15.6	25.2	0.06	.31	-0.4	1.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	13	0.27	0.5	19.58	19.0	-6.6	37.3	-0.23	.70	-0.4	1.1
TRUCK	3	1.36	1.4	52.68	19.5	1.3	61.0	-0.92	.46	-1.2	1.2
*VEHICLE OWNER											
GSA	9	0.75	0.9	36.59	23.9	4.4	49.8	-0.59	.82	-1.0	1.1
PRIVATE OWNER	7	0.12	0.6	11.89	11.5	-17.3	21.0	-0.06	.41	-0.1	1.0
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	6	0.59	0.5	31.61	23.6	-11.2	51.1	-0.49	.91	-0.6	1.2
NO CNV/NO APMP	10	0.40	1.0	22.28	22.7	-1.5	34.8	-0.28	.59	-0.6	1.2
*DISPLACEMENT											
LESS THAN 151	4	0.07	0.9	6.03	12.0	-17.7	23.6	0.04	.10	0.0	1.4
151 - 250	2	0.25	0.0	14.56	9.5	-19.6	17.5	-0.05	.37	-0.1	0.1
251 - 350	2	0.22	0.3	21.29	4.5	-12.0	29.1	-0.14	.93	-0.4	0.4
MORE THAN 350	8	0.79	0.9	39.59	23.4	6.5	52.5	-0.69	.81	-1.0	1.2
*INERTIA WEIGHT											
1800 - 2799	3	-0.35	0.4	1.39	9.3	-7.2	13.3	-0.00	.07	-0.1	1.7
2800 - 3799	5	0.46	0.5	18.33	6.3	-22.5	22.9	-0.04	.51	-0.1	0.4
3800 - 4799	8	0.79	0.9	39.59	23.4	6.5	52.5	-0.69	.81	-1.0	1.2
4800 - 5799	0										
ALL VEHICLES	16	0.47	0.8	25.78	22.7	-5.1	40.3	-0.36	.70	-0.6	1.1

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	2	17.8	3.0	53.4	13.9	5.8	7.6	-108.2	150.5	-17.8	14.1
CHRYSLER	10	14.1	15.3	38.6	17.1	-2.0	6.3	-18.4	36.1	-5.3	8.5
FORD MOTOR CO.	1	39.4	0.0	20.4	0.0	-14.2	0.0	23.0	0.0	2.5	0.0
GENERAL MOTORS	0										
IMPORTS	3	-7.5	8.5	1.5	14.1	-1.7	4.7	-1.7	8.4	0.4	7.2
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	11	14.0	16.4	38.7	23.9	-0.4	6.7	-36.4	67.6	-6.9	11.2
1974	5	7.8	18.9	18.5	9.9	-4.5	7.4	3.5	19.9	-1.8	4.7
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	13	8.3	13.6	26.3	20.3	-2.2	7.0	-17.9	61.2	-3.8	9.0
TRUCK	3	28.6	22.6	58.4	5.7	0.4	8.3	-50.0	51.1	-12.0	12.2
*VEHICLE OWNER											
GSA	9	18.0	14.5	45.4	17.6	0.0	7.7	-43.6	73.2	-9.1	11.1
PRIVATE OWNER	7	4.5	17.6	15.6	15.9	-3.9	5.7	1.4	18.1	-0.4	4.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	6	15.6	13.1	36.7	20.2	-2.8	8.7	-36.3	88.6	-5.7	11.4
NO CNV/NO APMP	10	10.0	19.1	29.7	24.2	-1.0	6.2	-16.5	36.5	-5.1	9.3
*DISPLACEMENT											
LESS THAN 151	4	4.2	24.5	6.2	14.9	-4.8	7.3	4.5	14.1	0.9	6.0
151 - 250	2	7.0	1.0	20.3	13.6	-5.6	5.4	-6.0	18.6	-0.8	0.4
251 - 350	2	5.4	7.1	27.8	5.6	-2.1	5.1	1.3	34.2	-3.4	3.3
MORE THAN 350	8	19.0	15.3	49.6	12.9	0.9	7.5	-48.9	76.0	-10.1	11.5
*INERTIA WEIGHT											
1800 - 2799	3	-7.5	8.5	1.5	14.1	-1.7	4.7	-1.7	8.4	0.4	7.2
2800 - 3799	5	12.9	15.3	23.3	8.4	-5.9	6.2	2.7	22.8	-1.2	2.9
3800 - 4799	8	19.0	15.3	49.6	12.9	0.9	7.5	-48.9	76.0	-10.1	11.5
4800 - 5799	0										
ALL VEHICLES	16	12.1	16.8	32.4	22.3	-1.7	7.0	-23.9	59.3	-5.3	9.8

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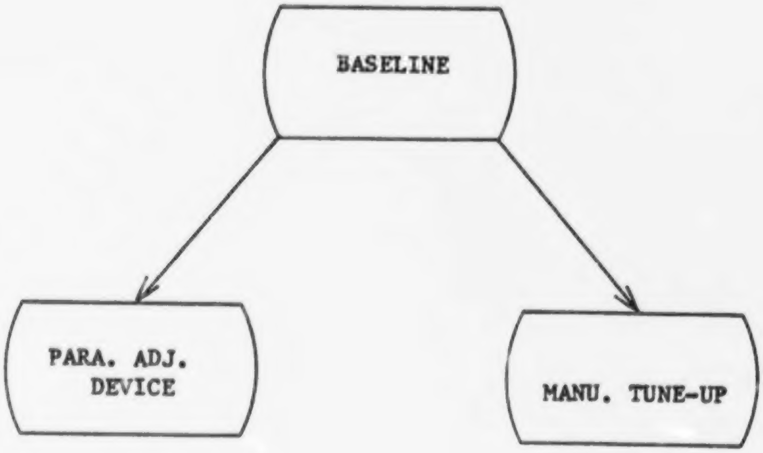
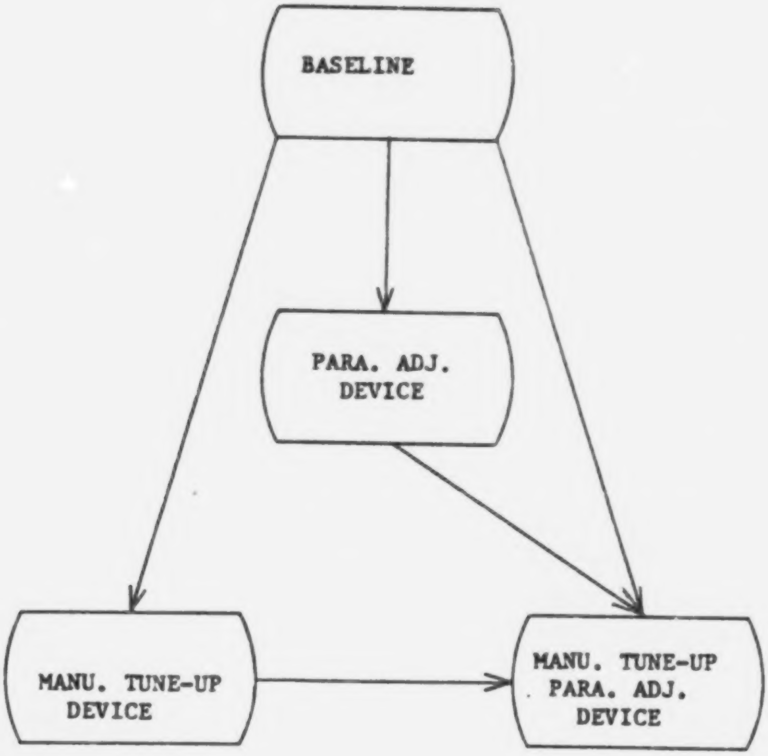
VEHICLE #3025

(NO DATA ANALYSIS)


BASELINE
PARA. ADJ. DEVICE
MANU. TUNE-UP

VEHICLE #3031

(NO DATA ANALYSIS)


BASELINE
PARA. ADJ. DEVICE
MANU. TUNE-UP DEVICE
MANU. TUNE-UP PARA. ADJ. DEVICE

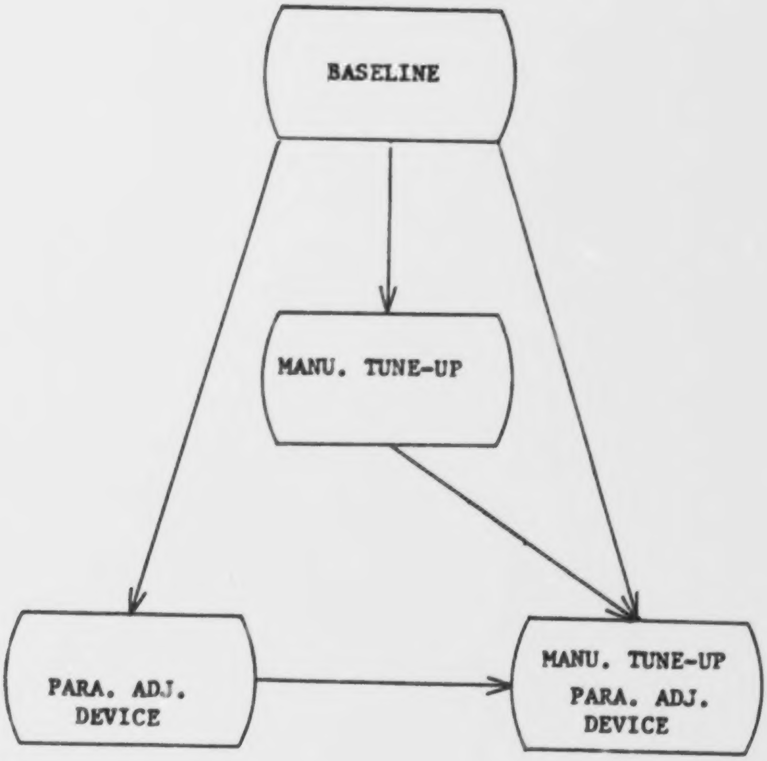
APPENDIX F

TABLES OF TEST RESULTS

DATA SET 1   PAGE F-2

1973-1974 VEHICLES

DATA SET 1
9 VEHICLES


BASELINE
MANU. TUNE-UP
PARA. ADJ. DEVICE
MANU. TUNE-UP PARA. ADJ. DEVICE

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES--COLD START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	6.16	0.0	143.38	0.0	721.1	0.0	1.00	0.00	9.2	0.0
CHRYSLER	7	4.54	1.2	87.27	16.0	645.2	124.0	3.09	1.31	11.5	2.3
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	5.03	0.0	70.11	0.0	356.7	0.0	1.11	0.00	18.4	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	4.70	1.2	91.89	26.2	627.4	157.5	2.71	1.53	12.0	3.4
1974	1	5.39	0.0	89.26	0.0	574.4	0.0	2.02	0.00	12.1	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	4.54	1.3	89.15	27.9	557.0	141.9	2.68	1.71	13.1	3.4
TRUCK	3	5.25	0.5	96.49	20.2	750.7	15.4	2.54	1.00	9.7	0.4
*VEHICLE OWNER											
GSA	5	5.14	0.9	102.02	28.4	679.0	144.7	2.36	1.07	10.8	2.9
PRIVATE OWNER	4	4.32	1.4	78.56	10.8	549.7	135.7	2.98	1.94	13.4	3.3
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	4.27	1.6	97.44	33.5	646.3	154.4	2.58	1.06	11.5	3.1
NO CNV/NO APMP	5	5.18	0.5	86.92	17.2	601.8	158.3	2.67	1.83	12.4	3.5
*DISPLACEMENT											
LESS THAN 151	1	5.03	0.0	70.11	0.0	356.7	0.0	1.11	0.00	18.4	0.0
151 - 250	1	3.82	0.0	77.24	0.0	421.9	0.0	3.15	0.00	16.0	0.0
251 - 350	2	4.95	0.6	87.89	1.9	584.0	13.6	3.81	2.52	12.0	0.1
MORE THAN 350	5	4.85	1.5	100.25	30.6	729.5	35.2	2.37	1.08	9.9	0.8
*INERTIA WEIGHT											
1800 - 2799	1	5.03	0.0	70.11	0.0	356.7	0.0	1.11	0.00	18.4	0.0
2800 - 3799	3	4.58	0.8	84.34	6.3	530.0	94.1	3.59	1.82	13.3	2.3
3800 - 4799	5	4.85	1.5	100.25	30.6	729.5	35.2	2.37	1.08	9.9	0.8
4800 - 5799	0										
ALL VEHICLES	9	4.78	1.1	91.60	24.5	621.5	148.4	2.63	1.45	12.0	3.2

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES--COLD START DATA)
(MANU. TUNE-UP)

	# OF VEH.	HC MEAN	HC S.D.	CO MEAN	CO S.D.	CO2 MEAN	CO2 S.D.	NOX MEAN	NOX S.D.	MPG MEAN	MPG S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	3.56	0.0	52.66	0.0	632.6	0.0	3.01	0.00	12.2	0.0
CHRYSLER	7	3.70	0.8	57.84	14.3	647.5	124.6	3.15	.89	12.1	2.1
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	5.79	0.0	78.43	0.0	373.8	0.0	1.05	0.00	17.2	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	3.79	1.0	58.84	15.2	621.5	149.4	3.07	.96	12.6	2.6
1974	1	4.90	0.0	65.23	0.0	566.4	0.0	1.54	0.00	13.0	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	4.18	1.1	67.88	8.8	554.4	129.0	2.63	1.14	13.5	2.6
TRUCK	3	3.39	0.5	42.90	3.1	737.5	66.0	3.44	.62	10.9	0.9
*VEHICLE OWNER											
GSA	5	3.46	0.4	50.34	12.2	654.1	143.5	3.24	.53	12.2	2.4
PRIVATE OWNER	4	4.49	1.3	71.07	6.1	567.1	141.2	2.48	1.44	13.2	2.8
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.45	0.5	60.39	13.8	643.3	162.3	3.24	.46	12.3	2.8
NO CNV/NO APMP	5	4.29	1.2	58.88	16.4	593.1	136.4	2.63	1.33	13.0	2.5
*DISPLACEMENT											
LESS THAN 151	1	5.79	0.0	78.43	0.0	373.8	0.0	1.05	0.00	17.2	0.0
151 - 250	1	3.57	0.0	70.33	0.0	425.3	0.0	2.85	0.00	16.2	0.0
251 - 350	2	4.70	0.3	66.10	1.2	593.9	39.0	2.84	1.85	12.5	0.7
MORE THAN 350	5	3.30	0.5	51.00	13.5	710.4	65.2	3.30	.48	11.1	0.9
*INERTIA WEIGHT											
1800 - 2799	1	5.79	0.0	78.43	0.0	373.8	0.0	1.05	0.00	17.2	0.0
2800 - 3799	3	4.33	0.7	67.51	2.6	537.7	101.2	2.85	1.31	13.7	2.2
3800 - 4799	5	3.30	0.5	51.00	13.5	710.4	65.2	3.30	.48	11.1	0.9
4800 - 5799	0										
ALL VEHICLES	9	3.92	1.0	59.55	14.4	615.4	141.0	2.90	1.04	12.7	2.5

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 8001

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES--COLD START DATA)
(PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	5.59	0.0	40.43	0.0	619.5	0.0	3.90	0.00	12.7	0.0
CHRYSLER	7	3.70	1.0	44.37	10.3	600.7	97.5	3.97	1.06	13.2	1.9
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	4.42	0.0	45.21	0.0	345.2	0.0	1.80	0.00	20.6	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	3.90	1.1	42.98	9.0	581.4	126.9	3.84	1.19	13.9	3.2
1974	1	4.69	0.0	52.33	0.0	518.0	0.0	2.78	0.00	14.4	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	3.90	1.3	46.94	9.6	529.3	121.2	3.63	1.29	14.9	3.3
TRUCK	3	4.17	0.8	38.19	3.9	664.6	56.1	3.91	1.12	12.1	0.9
*VEHICLE OWNER											
GSA	5	4.05	1.3	42.75	9.4	608.8	108.9	3.89	.79	13.1	2.1
PRIVATE OWNER	4	3.91	0.8	45.62	9.6	531.3	136.2	3.51	1.64	15.0	3.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.90	1.6	48.48	8.7	597.1	114.0	4.13	.56	13.2	2.4
NO CNV/NO APMP	5	4.06	0.5	40.46	8.3	556.2	135.7	3.39	1.48	14.6	3.5
*DISPLACEMENT											
LESS THAN 151	1	4.42	0.0	45.21	0.0	345.2	0.0	1.80	0.00	20.6	0.0
151 - 250	1	2.14	0.0	58.74	0.0	430.9	0.0	3.83	0.00	16.7	0.0
251 - 350	2	4.16	0.7	42.27	14.2	563.7	64.6	4.21	2.02	13.8	0.9
MORE THAN 350	5	4.20	1.1	41.54	6.9	653.2	44.2	3.89	.79	12.2	0.7
*INERTIA WEIGHT											
1800 - 2799	1	4.42	0.0	45.21	0.0	345.2	0.0	1.80	0.00	20.6	0.0
2800 - 3799	3	3.49	1.3	47.76	13.8	519.4	89.3	4.08	1.45	14.8	1.8
3800 - 4799	5	4.20	1.1	41.54	6.9	653.2	44.2	3.89	.79	12.2	0.7
4800 - 5799	0										
ALL VEHICLES	9	3.99	1.1	44.02	9.0	574.4	120.6	3.72	1.17	14.0	3.0

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES--COLD START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	3.56	0.0	52.66	0.0	632.6	0.0	3.01	0.00	12.2	0.0
CHRYSLER	7	3.70	0.8	57.84	14.3	647.5	124.6	3.15	.89	12.1	2.1
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	5.79	0.0	78.43	0.0	373.8	0.0	1.05	0.00	17.2	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	3.79	1.0	58.84	15.2	621.5	149.4	3.07	.96	12.6	2.6
1974	1	4.90	0.0	65.23	0.0	566.4	0.0	1.54	0.00	13.0	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	4.18	1.1	67.88	8.8	554.4	129.0	2.63	1.14	13.5	2.6
TRUCK	3	3.39	0.5	42.90	3.1	737.5	66.0	3.44	.62	10.9	0.9
*VEHICLE OWNER											
GSA	5	3.46	0.4	50.34	12.2	654.1	143.5	3.24	.53	12.2	2.4
PRIVATE OWNER	4	4.49	1.3	71.07	6.1	567.1	141.2	2.48	1.44	13.2	2.8
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.45	0.5	60.39	13.8	643.3	162.3	3.24	.46	12.3	2.8
NO CNV/NO APMP	5	4.29	1.2	58.88	16.4	593.1	136.4	2.63	1.33	13.0	2.5
*DISPLACEMENT											
LESS THAN 151	1	5.79	0.0	78.43	0.0	373.8	0.0	1.05	0.00	17.2	0.0
151 - 250	1	3.57	0.0	70.33	0.0	425.3	0.0	2.85	0.00	16.2	0.0
251 - 350	2	4.70	0.3	66.10	1.2	593.9	39.0	2.84	1.85	12.5	0.7
MORE THAN 350	5	3.30	0.5	51.00	13.5	710.4	65.2	3.30	.48	11.1	0.9
*INERTIA WEIGHT											
1800 - 2799	1	5.79	0.0	78.43	0.0	373.8	0.0	1.05	0.00	17.2	0.0
2800 - 3799	3	4.33	0.7	67.51	2.6	537.7	101.2	2.85	1.31	13.7	2.2
3800 - 4799	5	3.30	0.5	51.00	13.5	710.4	65.2	3.30	.48	11.1	0.9
4800 - 5799	0										
ALL VEHICLES	9	3.92	1.0	59.55	14.4	615.4	141.0	2.90	1.04	12.7	2.5

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES--COLD START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	2.60	0.0	90.72	0.0	88.5	0.0	-2.01	0.00	-3.0	0.0
CHRYSLER	7	0.84	1.1	29.43	26.4	-2.3	35.5	-0.06	.93	-0.6	0.9
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	-0.76	0.0	-8.32	0.0	-17.1	0.0	0.06	0.00	1.2	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	0.91	1.4	33.04	36.3	5.9	46.9	-0.36	1.07	-0.7	1.4
1974	1	0.49	0.0	24.03	0.0	8.0	0.0	0.48	0.00	-0.8	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	0.36	1.2	21.27	36.4	2.6	44.7	0.05	1.13	-0.4	1.5
TRUCK	3	1.85	1.0	53.59	17.4	13.2	50.8	-0.90	.45	-1.3	0.9
*VEHICLE OWNER											
GSA	5	1.68	1.1	51.68	32.2	24.9	51.0	-0.88	.88	-1.4	1.2
PRIVATE OWNER	4	-0.17	0.5	7.49	16.7	-17.4	18.1	0.50	.66	0.2	0.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	0.82	1.3	37.06	44.5	3.0	59.2	-0.65	1.04	-0.8	1.5
NO CNV/NO APMP	5	0.89	1.5	28.03	28.3	8.6	34.6	0.04	1.03	-0.6	1.3
*DISPLACEMENT											
LESS THAN 151	1	-0.76	0.0	-8.32	0.0	-17.1	0.0	0.06	0.00	1.2	0.0
151 - 250	1	0.25	0.0	6.91	0.0	-3.4	0.0	0.30	0.00	-0.2	0.0
251 - 350	2	0.25	0.3	21.79	3.2	-9.9	25.4	0.96	.68	-0.4	0.6
MORE THAN 350	5	1.55	1.3	49.24	36.6	19.1	56.5	-0.94	.79	-1.2	1.4
*INERTIA WEIGHT											
1800 - 2799	1	-0.76	0.0	-8.32	0.0	-17.1	0.0	0.06	0.00	1.2	0.0
2800 - 3799	3	0.25	0.2	16.83	8.9	-7.8	18.3	0.74	.61	-0.4	0.4
3800 - 4799	5	1.55	1.3	49.24	36.6	19.1	56.5	-0.94	.79	-1.2	1.4
4800 - 5799	0										
ALL VEHICLES	9	0.86	1.3	32.04	34.1	6.1	43.9	-0.27	1.04	-0.7	1.3

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES--COLD START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	42.2	0.0	63.3	0.0	12.3	0.0	-201.0	0.0	-32.9	0.0
CHRYSLER	7	14.5	22.4	30.6	25.3	-0.5	5.0	-11.4	42.0	-6.1	9.2
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	-15.1	0.0	-11.9	0.0	-4.8	0.0	5.4	0.0	6.3	0.0
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	14.9	25.7	29.9	30.9	0.3	6.8	-37.4	75.7	-7.8	13.9
1974	1	9.1	0.0	26.9	0.0	1.4	0.0	23.8	0.0	-6.9	0.0
1975	0										
***VEHICLE TYPE**											
AUTOMOBILE	6	4.2	21.6	17.0	27.5	-0.2	6.7	-22.7	87.9	-5.1	14.4
TRUCK	3	34.3	15.9	54.6	7.0	1.8	6.8	-46.5	42.9	-13.1	9.4
***VEHICLE OWNER**											
GSA	5	30.3	17.8	47.2	22.3	3.4	7.0	-66.2	84.8	-14.7	13.1
PRIVATE OWNER	4	-5.8	12.7	7.5	20.1	-3.2	3.1	13.9	12.7	1.0	6.0
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	12.2	24.8	30.0	34.7	0.3	8.2	-55.4	98.6	-8.7	16.7
NO CNV/NO APMP	5	15.9	26.3	29.2	27.7	0.5	5.5	-10.7	49.7	-7.0	11.3
***DISPLACEMENT**											
LESS THAN 151	1	-15.1	0.0	-11.9	0.0	-4.8	0.0	5.4	0.0	6.3	0.0
151 - 250	1	6.5	0.0	8.9	0.0	-0.8	0.0	9.5	0.0	-1.5	0.0
251 - 350	2	4.7	6.3	24.8	3.1	-1.7	4.3	24.8	1.4	-3.7	4.6
MORE THAN 350	5	25.5	26.8	43.9	29.5	2.6	7.8	-68.0	82.9	-13.4	15.0
***INERTIA WEIGHT**											
1800 - 2799	1	-15.1	0.0	-11.9	0.0	-4.8	0.0	5.4	0.0	6.3	0.0
2800 - 3799	3	5.3	4.6	19.5	9.4	-1.4	3.1	19.7	8.9	-2.9	3.5
3800 - 4799	5	25.5	26.8	43.9	29.5	2.6	7.8	-68.0	82.9	-13.4	15.0
4800 - 5799	0										
ALL VEHICLES	9	14.3	24.1	29.5	28.9	0.5	6.3	-30.6	73.7	-7.7	13.0

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES--COLD START DATA)
(BASELINE--PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	5.59	0.0	40.43	0.0	619.5	0.0	3.90	0.00	12.7	0.0
CHRYSLER	7	3.70	1.0	44.37	10.3	600.7	97.5	3.97	1.06	13.2	1.9
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	4.42	0.0	45.21	0.0	345.2	0.0	1.80	0.00	20.6	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	3.90	1.1	42.98	9.0	581.4	126.9	3.84	1.19	13.9	3.2
1974	1	4.69	0.0	52.33	0.0	518.0	0.0	2.78	0.00	14.4	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	3.90	1.3	46.94	9.6	529.3	121.2	3.63	1.29	14.9	3.3
TRUCK	3	4.17	0.8	38.19	3.9	664.6	56.1	3.91	1.12	12.1	0.9
*VEHICLE OWNER											
GSA	5	4.05	1.3	42.75	9.4	608.8	108.9	3.89	.79	13.1	2.1
PRIVATE OWNER	4	3.91	0.8	45.62	9.6	531.3	136.2	3.51	1.64	15.0	3.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.90	1.6	48.48	8.7	597.1	114.0	4.13	.56	13.2	2.4
NO CNV/NO APMP	5	4.06	0.5	40.46	8.3	556.2	135.7	3.39	1.48	14.6	3.5
*DISPLACEMENT											
LESS THAN 151	1	4.42	0.0	45.21	0.0	345.2	0.0	1.80	0.00	20.6	0.0
151 - 250	1	2.14	0.0	58.74	0.0	430.9	0.0	3.83	0.00	16.7	0.0
251 - 350	2	4.16	0.7	42.27	14.2	563.7	64.6	4.21	2.02	13.8	0.9
MORE THAN 350	5	4.20	1.1	41.54	6.9	653.2	44.2	3.89	.79	12.2	0.7
*INERTIA WEIGHT											
1800 - 2799	1	4.42	0.0	45.21	0.0	345.2	0.0	1.80	0.00	20.6	0.0
2800 - 3799	3	3.49	1.3	47.76	13.8	519.4	89.3	4.08	1.45	14.8	1.8
3800 - 4799	5	4.20	1.1	41.54	6.9	653.2	44.2	3.89	.79	12.2	0.7
4800 - 5799	0										
ALL VEHICLES	9	3.99	1.1	44.02	9.0	574.4	120.6	3.72	1.17	14.0	3.0

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES--COLD START DATA)
(BASELINE--PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	0.57	0.0	102.95	0.0	101.6	0.0	-2.90	0.00	-3.5	0.0
CHRYSLER	7	0.85	1.0	42.90	23.0	44.5	56.0	-0.89	.61	-1.7	0.9
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	0.61	0.0	24.90	0.0	11.5	0.0	-0.69	0.00	-2.2	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	0.80	0.9	48.90	31.1	46.0	57.3	-1.13	.92	-2.0	1.0
1974	1	0.70	0.0	36.93	0.0	56.4	0.0	-0.76	0.00	-2.3	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	0.65	0.7	42.21	33.0	27.7	44.3	-0.95	.99	-1.8	1.1
TRUCK	3	1.08	1.3	58.30	22.0	86.1	56.8	-1.36	.62	-2.4	0.6
*VEHICLE OWNER											
GSA	5	1.10	1.0	59.27	33.7	70.2	60.2	-1.53	.93	-2.3	1.1
PRIVATE OWNER	4	0.41	0.7	32.95	16.7	18.4	29.8	-0.53	.33	-1.6	0.8
*CONTROL OPTIONS (CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	0.37	1.0	48.96	41.0	49.2	51.7	-1.55	1.10	-1.8	1.3
NO CNV/NO APMP	5	1.13	0.7	46.46	21.5	45.6	61.4	-0.72	.46	-2.2	0.6
*DISPLACEMENT											
LESS THAN 151	1	0.61	0.0	24.90	0.0	11.5	0.0	-0.69	0.00	-2.2	0.0
151 - 250	1	1.68	0.0	18.50	0.0	-9.0	0.0	-0.68	0.00	-0.8	0.0
251 - 350	2	0.79	0.1	45.61	12.3	20.3	51.1	-0.40	.50	-1.8	0.7
MORE THAN 350	5	0.65	1.2	58.70	34.6	76.3	51.0	-1.52	.94	-2.3	1.1
*INERTIA WEIGHT											
1800 - 2799	1	0.61	0.0	24.90	0.0	11.5	0.0	-0.69	0.00	-2.2	0.0
2800 - 3799	3	1.09	0.5	36.58	17.9	10.5	39.9	-0.50	.39	-1.5	0.8
3800 - 4799	5	0.65	1.2	58.70	34.6	76.3	51.0	-1.52	.94	-2.3	1.1
4800 - 5799	0										
ALL VEHICLES	9	0.79	0.9	47.57	29.4	47.2	53.8	-1.09	.87	-2.0	1.0

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES--COLD START DATA)
(BASELINE--PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	9.3	0.0	71.8	0.0	14.1	0.0	-290.0	0.0	-37.9	0.0
CHRYSLER	7	15.7	24.0	46.8	18.5	6.1	7.8	-37.9	32.5	-16.4	9.5
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	12.1	0.0	35.5	0.0	3.2	0.0	-62.2	0.0	-12.2	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	14.8	22.3	49.2	19.8	6.3	7.8	-72.5	93.3	-18.2	11.8
1974	1	13.0	0.0	41.4	0.0	9.8	0.0	-37.6	0.0	-19.0	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	12.3	21.8	43.1	20.2	4.3	6.6	-72.0	108.8	-15.1	12.2
TRUCK	3	19.1	22.6	59.0	10.8	11.5	7.6	-62.0	36.4	-24.8	4.8
*VEHICLE OWNER											
GSA	5	22.1	20.6	54.5	19.5	9.3	8.4	-99.5	110.9	-23.4	12.3
PRIVATE OWNER	4	5.2	19.7	40.6	16.6	3.4	5.1	-30.1	26.1	-12.0	5.4
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	6.2	28.6	44.2	24.7	6.5	7.3	-99.5	128.9	-17.8	15.7
NO CNV/NO APMP	5	21.3	11.4	51.6	14.5	6.8	8.3	-44.0	36.5	-18.7	7.8
*DISPLACEMENT											
LESS THAN 151	1	12.1	0.0	35.5	0.0	3.2	0.0	-62.2	0.0	-12.2	0.0
151 - 250	1	44.0	0.0	24.0	0.0	-2.1	0.0	-21.6	0.0	-4.8	0.0
251 - 350	2	16.2	4.6	52.1	15.1	3.6	8.8	-19.3	26.0	-14.9	5.8
MORE THAN 350	5	8.5	24.5	54.3	19.9	10.3	6.8	-99.1	111.3	-23.6	11.9
*INERTIA WEIGHT											
1800 - 2799	1	12.1	0.0	35.5	0.0	3.2	0.0	-62.2	0.0	-12.2	0.0
2800 - 3799	3	25.5	16.3	42.7	19.4	1.7	7.1	-20.0	18.4	-11.5	7.1
3800 - 4799	5	8.5	24.5	54.3	19.9	10.3	6.8	-99.1	111.3	-23.6	11.9
4800 - 5799	0										
ALL VEHICLES	9	14.6	20.9	48.4	18.7	6.7	7.4	-68.6	88.0	-18.3	11.1

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES--COLD START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	3.86	0.0	52.14	0.0	609.7	0.0	2.82	0.00	12.6	0.0
CHRYSLER	7	4.40	1.9	48.07	20.3	588.3	92.1	4.13	1.00	13.2	1.6
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	5.17	0.0	52.90	0.0	346.2	0.0	1.62	0.00	19.9	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	3.96	1.1	44.29	11.2	572.3	119.2	3.87	1.22	14.0	2.8
1974	1	8.12	0.0	87.24	0.0	495.9	0.0	2.40	0.00	13.5	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	4.35	2.1	54.59	18.3	525.0	121.5	3.31	1.37	14.6	3.0
TRUCK	3	4.57	0.7	38.01	11.9	641.5	42.6	4.49	.36	12.4	0.4
*VEHICLE OWNER											
GSA	5	4.21	0.7	45.13	13.1	593.2	96.0	4.18	.80	13.3	1.9
PRIVATE OWNER	4	4.69	2.6	53.97	23.4	527.0	139.0	3.11	1.56	14.7	3.5
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.68	1.4	50.45	7.6	574.6	99.6	3.79	.92	13.5	2.0
NO CNV/NO APMP	5	5.02	1.8	47.95	24.1	555.2	136.0	3.64	1.57	14.2	3.3
*DISPLACEMENT											
LESS THAN 151	1	5.17	0.0	52.90	0.0	346.2	0.0	1.62	0.00	19.9	0.0
151 - 250	1	3.46	0.0	59.50	0.0	432.0	0.0	4.60	0.00	16.5	0.0
251 - 350	2	5.78	3.3	60.96	37.2	549.3	75.5	3.82	2.01	13.4	0.1
MORE THAN 350	5	3.92	1.2	41.45	10.4	639.5	35.7	3.90	.86	12.4	0.4
*INERTIA WEIGHT											
1800 - 2799	1	5.17	0.0	52.90	0.0	346.2	0.0	1.62	0.00	19.9	0.0
2800 - 3799	3	5.01	2.7	60.47	26.3	510.2	86.2	4.08	1.49	14.4	1.8
3800 - 4799	5	3.92	1.2	41.45	10.4	639.5	35.7	3.90	.86	12.4	0.4
4800 - 5799	0										
ALL VEHICLES	9	4.42	1.7	49.06	17.7	563.8	114.3	3.71	1.24	13.9	2.6

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES--COLD START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	2.30	0.0	91.24	0.0	111.4	0.0	-1.82	0.00	-3.4	0.0
CHRYSLER	7	0.15	1.5	39.19	24.7	56.8	66.0	-1.04	1.08	-1.8	1.0
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	-0.14	0.0	17.21	0.0	10.5	0.0	-0.51	0.00	-1.5	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	0.74	1.0	47.60	26.5	55.2	66.3	-1.16	1.02	-2.0	1.1
1974	1	-2.73	0.0	2.02	0.0	78.5	0.0	-0.38	0.00	-1.3	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	0.20	1.7	34.56	32.3	32.0	50.7	-0.63	.84	-1.5	1.0
TRUCK	3	0.67	1.2	58.49	14.1	109.2	56.9	-1.95	.66	-2.7	0.7
*VEHICLE OWNER											
GSA	5	0.94	1.1	56.89	27.9	85.8	67.0	-1.82	.51	-2.4	1.2
PRIVATE OWNER	4	-0.37	1.7	24.59	20.9	22.7	38.4	-0.13	.39	-1.3	0.3
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	0.59	1.2	47.00	32.8	71.7	86.7	-1.20	.83	-2.1	1.6
NO CNV/NO APMP	5	0.17	1.7	38.96	29.1	46.6	42.7	-0.97	1.19	-1.8	0.6
*DISPLACEMENT											
LESS THAN 151	1	-0.14	0.0	17.21	0.0	10.5	0.0	-0.51	0.00	-1.5	0.0
151 - 250	1	0.36	0.0	17.74	0.0	-10.1	0.0	-1.45	0.00	-0.6	0.0
251 - 350	2	-0.83	2.7	26.93	35.2	34.7	61.9	-0.01	.52	-1.3	0.0
MORE THAN 350	5	0.93	1.1	58.80	24.7	90.0	59.8	-1.53	.99	-2.5	1.1
*INERTIA WEIGHT											
1800 - 2799	1	-0.14	0.0	17.21	0.0	10.5	0.0	-0.51	0.00	-1.5	0.0
2800 - 3799	3	-0.43	2.0	23.87	25.5	19.8	50.9	-0.49	.91	-1.1	0.5
3800 - 4799	5	0.93	1.1	58.80	24.7	90.0	59.8	-1.53	.99	-2.5	1.1
4800 - 5799	0										
ALL VEHICLES	9	0.36	1.5	42.53	29.1	57.7	62.5	-1.07	.99	-1.9	1.1

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES--COLD START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	37.3	0.0	63.6	0.0	15.4	0.0	-182.0	0.0	-37.2	0.0
CHRYSLER	7	4.4	27.7	43.9	24.0	7.8	9.1	-50.4	67.5	-17.0	12.0
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	-2.8	0.0	24.5	0.0	2.9	0.0	-45.9	0.0	-8.3	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	14.5	16.5	49.2	17.9	7.4	8.8	-70.2	76.1	-19.2	13.5
1974	1	-50.6	0.0	2.3	0.0	13.7	0.0	-18.8	0.0	-11.0	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	5.1	30.5	35.5	23.6	5.0	7.7	-47.7	69.5	-13.1	12.1
TRUCK	3	11.5	21.8	60.9	8.3	14.5	7.2	-98.2	82.6	-28.5	8.1
*VEHICLE OWNER											
GSA	5	16.3	19.4	53.8	18.3	11.3	9.2	-104.5	76.2	-25.3	14.0
PRIVATE OWNER	4	-4.0	32.9	31.7	24.4	4.2	6.6	-14.5	23.6	-9.5	1.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	11.9	20.6	44.5	17.3	9.3	11.8	-69.9	78.4	-21.3	18.3
NO CNV/NO APMP	5	3.6	32.6	43.6	28.8	7.1	6.3	-60.1	77.9	-15.9	8.2
*DISPLACEMENT											
LESS THAN 151	1	-2.8	0.0	24.5	0.0	2.9	0.0	-45.9	0.0	-8.3	0.0
151 - 250	1	9.4	0.0	23.0	0.0	-2.4	0.0	-46.0	0.0	-3.5	0.0
251 - 350	2	-13.5	52.6	31.1	40.8	6.1	10.7	-6.3	17.7	-11.2	0.2
MORE THAN 350	5	17.1	19.1	57.2	11.4	12.1	7.8	-95.2	87.2	-26.0	12.5
*INERTIA WEIGHT											
1800 - 2799	1	-2.8	0.0	24.5	0.0	2.9	0.0	-45.9	0.0	-8.3	0.0
2800 - 3799	3	-5.9	39.4	28.4	29.2	3.2	9.0	-19.5	26.2	-8.6	4.4
3800 - 4799	5	17.1	19.1	57.2	11.4	12.1	7.8	-95.2	87.2	-26.0	12.5
4800 - 5799	0										
ALL VEHICLES	9	7.2	26.6	44.0	22.9	8.1	8.5	-64.5	73.2	-18.3	12.9

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES--COLD START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	3.86	0.0	52.14	0.0	609.7	0.0	2.82	0.00	12.6	0.0
CHRYSLER	7	4.40	1.9	48.07	20.3	588.3	92.1	4.13	1.00	13.2	1.6
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	5.17	0.0	52.90	0.0	346.2	0.0	1.62	0.00	19.9	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	3.96	1.1	44.29	11.2	572.3	119.2	3.87	1.22	14.0	2.8
1974	1	8.12	0.0	87.24	0.0	495.9	0.0	2.40	0.00	13.5	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	4.35	2.1	54.59	18.3	525.0	121.5	3.31	1.37	14.6	3.0
TRUCK	3	4.57	0.7	38.01	11.9	641.5	42.6	4.49	.36	12.4	0.4
*VEHICLE OWNER											
GSA	5	4.21	0.7	45.13	13.1	593.2	96.0	4.18	.80	13.3	1.9
PRIVATE OWNER	4	4.69	2.6	53.97	23.4	527.0	139.0	3.11	1.56	14.7	3.5
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.68	1.4	50.45	7.6	574.6	99.6	3.79	.92	13.5	2.0
NO CNV/NO APMP	5	5.02	1.8	47.95	24.1	555.2	136.0	3.64	1.57	14.2	3.3
*DISPLACEMENT											
LESS THAN 151	1	5.17	0.0	52.90	0.0	346.2	0.0	1.62	0.00	19.9	0.0
151 - 250	1	3.46	0.0	59.50	0.0	432.0	0.0	4.60	0.00	16.5	0.0
251 - 350	2	5.78	3.3	60.96	37.2	549.3	75.5	3.82	2.01	13.4	0.1
MORE THAN 350	5	3.92	1.2	41.45	10.4	639.5	35.7	3.90	.86	12.4	0.4
*INERTIA WEIGHT											
1800 - 2799	1	5.17	0.0	52.90	0.0	346.2	0.0	1.62	0.00	19.9	0.0
2800 - 3799	3	5.01	2.7	60.47	26.3	510.2	86.2	4.08	1.49	14.4	1.8
3800 - 4799	5	3.92	1.2	41.45	10.4	639.5	35.7	3.90	.86	12.4	0.4
4800 - 5799	0										
ALL VEHICLES	9	4.42	1.7	49.06	17.7	563.8	114.3	3.71	1.24	13.9	2.6

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES--COLD START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	-0.30	0.0	0.52	0.0	22.9	0.0	0.19	0.00	-0.4	0.0
CHRYSLER	7	-0.69	1.5	9.77	19.5	59.2	73.2	-0.98	.56	-1.1	0.9
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	0.62	0.0	25.53	0.0	27.6	0.0	-0.57	0.00	-2.7	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	-0.16	0.9	14.55	14.2	49.3	69.2	-0.80	.67	-1.3	1.0
1974	1	-3.22	0.0	-22.01	0.0	70.5	0.0	-0.86	0.00	-0.5	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	-0.17	1.6	13.29	21.4	29.4	25.9	-0.68	.72	-1.1	0.9
TRUCK	3	-1.18	0.3	4.89	9.0	96.0	104.3	-1.05	.38	-1.5	1.3
*VEHICLE OWNER											
GSA	5	-0.75	0.6	5.21	7.4	60.9	88.7	-0.94	.75	-1.0	1.1
PRIVATE OWNER	4	-0.20	2.0	17.10	26.3	40.1	22.7	-0.63	.47	-1.5	0.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	-0.23	0.9	9.94	16.3	68.7	99.8	-0.55	.88	-1.3	1.2
NO CNV/NO APMP	5	-0.72	1.7	10.93	21.2	38.0	22.2	-1.01	.31	-1.2	0.9
*DISPLACEMENT											
LESS THAN 151	1	0.62	0.0	25.53	0.0	27.6	0.0	-0.57	0.00	-2.7	0.0
151 - 250	1	0.11	0.0	10.83	0.0	-6.7	0.0	-1.75	0.00	-0.3	0.0
251 - 350	2	-1.08	3.0	5.14	38.4	44.7	36.6	-0.97	.16	-0.9	0.6
MORE THAN 350	5	-0.62	0.9	9.56	14.5	70.9	81.7	-0.59	.69	-1.2	1.1
*INERTIA WEIGHT											
1800 - 2799	1	0.62	0.0	25.53	0.0	27.6	0.0	-0.57	0.00	-2.7	0.0
2800 - 3799	3	-0.68	2.2	7.03	27.3	27.5	39.3	-1.23	.46	-0.7	0.5
3800 - 4799	5	-0.62	0.9	9.56	14.5	70.9	81.7	-0.59	.69	-1.2	1.1
4800 - 5799	0										
ALL VEHICLES	9	-0.50	1.3	10.49	18.0	51.6	65.2	-0.80	.63	-1.2	1.0

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES--COLD START DATA)
(MANU. TUNE-UP-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	-8.4	0.0	1.0	0.0	3.6	0.0	6.3	0.0	-3.3	0.0
CHRYSLER	7	-16.7	35.1	15.9	29.8	8.1	9.2	-34.5	22.5	-10.4	9.5
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	10.7	0.0	32.6	0.0	7.4	0.0	-54.3	0.0	-15.6	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	-6.2	26.5	22.3	20.9	6.9	8.5	-29.2	25.1	-11.0	9.1
1974	1	-65.7	0.0	-33.7	0.0	12.4	0.0	-55.8	0.0	-3.9	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	-1.7	33.9	17.9	30.9	5.2	4.7	-31.9	29.8	-8.1	5.8
TRUCK	3	-34.9	7.5	12.4	22.3	12.3	12.6	-32.6	17.1	-14.3	13.7
*VEHICLE OWNER											
GSA	5	-22.0	18.9	10.7	16.7	7.8	11.0	-30.6	27.0	-9.6	11.6
PRIVATE OWNER	4	-1.2	43.5	22.8	38.3	7.2	3.9	-34.1	26.5	-10.9	5.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	-4.0	26.5	12.8	23.3	8.7	12.4	-17.9	30.6	-12.0	12.8
NO CNV/NO APMP	5	-19.8	36.8	18.7	32.2	6.6	3.9	-43.6	13.9	-8.7	5.1
*DISPLACEMENT											
LESS THAN 151	1	10.7	0.0	32.6	0.0	7.4	0.0	-54.3	0.0	-15.6	0.0
151 - 250	1	3.1	0.0	15.4	0.0	-1.6	0.0	-61.4	0.0	-2.0	0.0
251 - 350	2	-21.1	63.1	7.2	57.9	7.7	6.7	-41.1	20.9	-7.4	4.9
MORE THAN 350	5	-17.3	27.6	16.5	22.7	9.3	9.8	-18.3	23.1	-11.9	10.8
*INERTIA WEIGHT											
1800 - 2799	1	10.7	0.0	32.6	0.0	7.4	0.0	-54.3	0.0	-15.6	0.0
2800 - 3799	3	-13.0	46.7	10.0	41.2	4.6	7.1	-47.8	18.9	-5.6	4.7
3800 - 4799	5	-17.3	27.6	16.5	22.7	9.3	9.8	-18.3	23.1	-11.9	10.8
4800 - 5799	0										
ALL VEHICLES	9	-12.8	31.8	16.1	27.0	7.5	8.1	-32.1	25.1	-10.2	8.8

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES--COLD START DATA)
(PARA ADJ/DEVICE-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	3.86	0.0	52.14	0.0	609.7	0.0	2.82	0.00	12.6	0.0
CHRYSLER	7	4.40	1.9	48.07	20.3	588.3	92.1	4.13	1.00	13.2	1.6
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	5.17	0.0	52.90	0.0	346.2	0.0	1.62	0.00	19.9	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	3.96	1.1	44.29	11.2	572.3	119.2	3.87	1.22	14.0	2.8
1974	1	8.12	0.0	87.24	0.0	495.9	0.0	2.40	0.00	13.5	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	4.35	2.1	54.59	18.3	525.0	121.5	3.31	1.37	14.6	3.0
TRUCK	3	4.57	0.7	38.01	11.9	641.5	42.6	4.49	.36	12.4	0.4
*VEHICLE OWNER											
GSA	5	4.21	0.7	45.13	13.1	593.2	96.0	4.18	.80	13.3	1.9
PRIVATE OWNER	4	4.69	2.6	53.97	23.4	527.0	139.0	3.11	1.56	14.7	3.5
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.68	1.4	50.45	7.6	574.6	99.6	3.79	.92	13.5	2.0
NO CNV/NO APMP	5	5.02	1.8	47.95	24.1	555.2	136.0	3.64	1.57	14.2	3.3
*DISPLACEMENT											
LESS THAN 151	1	5.17	0.0	52.90	0.0	346.2	0.0	1.62	0.00	19.9	0.0
151 - 250	1	3.46	0.0	59.50	0.0	432.0	0.0	4.60	0.00	16.5	0.0
251 - 350	2	5.78	3.3	60.96	37.2	549.3	75.5	3.82	2.01	13.4	0.1
MORE THAN 350	5	3.92	1.2	41.45	10.4	639.5	35.7	3.90	.86	12.4	0.4
*INERTIA WEIGHT											
1800 - 2799	1	5.17	0.0	52.90	0.0	346.2	0.0	1.62	0.00	19.9	0.0
2800 - 3799	3	5.01	2.7	60.47	26.3	510.2	86.2	4.08	1.49	14.4	1.8
3800 - 4799	5	3.92	1.2	41.45	10.4	639.5	35.7	3.90	.86	12.4	0.4
4800 - 5799	0										
ALL VEHICLES	9	4.42	1.7	49.06	17.7	563.8	114.3	3.71	1.24	13.9	2.6

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES--COLD START DATA)
(PARA ADJ/DEVICE-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	1.73	0.0	-11.71	0.0	9.8	0.0	1.08	0.00	0.1	0.0
CHRYSLER	7	-0.70	1.4	-3.71	15.9	12.3	51.7	-0.16	.80	-0.0	0.8
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	-0.75	0.0	-7.69	0.0	-1.0	0.0	0.18	0.00	0.7	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	-0.06	1.0	-1.30	9.0	9.1	47.9	-0.03	.85	-0.0	0.7
1974	1	-3.43	0.0	-34.91	0.0	22.1	0.0	0.38	0.00	1.0	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	-0.45	1.8	-7.65	15.5	4.3	11.3	0.32	.62	0.3	0.5
TRUCK	3	-0.40	0.3	0.18	11.1	23.1	86.1	-0.59	.92	-0.3	1.2
*VEHICLE OWNER											
GSA	5	-0.16	1.1	-2.38	9.4	15.6	61.9	-0.29	1.01	-0.1	0.9
PRIVATE OWNER	4	-0.78	1.9	-8.35	19.5	4.3	13.9	0.40	.19	0.4	0.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	0.22	1.4	-1.97	10.1	22.5	47.0	0.35	.79	-0.3	0.7
NO CNV/NO APMP	5	-0.96	1.4	-7.49	17.3	1.0	46.2	-0.25	.80	0.4	0.7
*DISPLACEMENT											
LESS THAN 151	1	-0.75	0.0	-7.69	0.0	-1.0	0.0	0.18	0.00	0.7	0.0
151 - 250	1	-1.32	0.0	-0.76	0.0	-1.1	0.0	-0.77	0.00	0.2	0.0
251 - 350	2	-1.62	2.6	-18.68	22.9	14.4	10.9	0.39	.01	0.5	0.7
MORE THAN 350	5	0.28	1.0	0.10	11.4	13.7	62.7	-0.01	1.04	-0.2	0.9
*INERTIA WEIGHT											
1800 - 2799	1	-0.75	0.0	-7.69	0.0	-1.0	0.0	0.18	0.00	0.7	0.0
2800 - 3799	3	-1.52	1.8	-12.71	19.2	9.2	11.8	0.00	.67	0.4	0.5
3800 - 4799	5	0.28	1.0	0.10	11.4	13.7	62.7	-0.01	1.04	-0.2	0.9
4800 - 5799	0										
ALL VEHICLES	9	-0.43	1.4	-5.04	14.0	10.6	45.0	0.02	.81	0.1	0.8

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES--COLD START DATA)
(PARA ADJ/DEVICE-TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	30.9	0.0	-29.0	0.0	1.6	0.0	27.7	0.0	0.5	0.0
CHRYSLER	7	-18.6	36.8	-7.5	32.3	1.7	8.0	-6.3	24.6	-0.5	6.6
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	-17.0	0.0	-17.0	0.0	-0.3	0.0	10.0	0.0	3.4	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	8	-5.4	29.8	-3.9	21.4	1.1	7.3	-2.5	25.5	-0.8	5.7
1974	1	-73.1	0.0	-66.7	0.0	4.3	0.0	13.7	0.0	6.7	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	-14.2	45.0	-16.6	29.9	0.8	2.0	9.2	16.0	1.7	3.0
TRUCK	3	-10.3	8.5	0.4	28.8	2.8	13.4	-20.6	29.3	-3.2	9.7
*VEHICLE OWNER											
GSA	5	-12.3	33.4	-5.8	24.1	1.9	9.6	-10.8	29.9	-1.6	7.2
PRIVATE OWNER	4	-13.6	44.1	-17.3	36.9	0.9	2.5	11.9	4.3	2.1	3.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	-2.1	43.7	-6.2	22.0	3.3	6.9	8.3	20.5	-2.8	5.9
NO CNV/NO APMP	5	-21.6	30.6	-14.7	35.7	0.0	7.4	-7.9	27.1	2.3	5.3
*DISPLACEMENT											
LESS THAN 151	1	-17.0	0.0	-17.0	0.0	-0.3	0.0	10.0	0.0	3.4	0.0
151 - 250	1	-61.7	0.0	-1.3	0.0	-0.3	0.0	-20.1	0.0	1.3	0.0
251 - 350	2	-34.0	55.4	-37.2	41.8	2.7	2.2	10.4	4.7	3.1	5.0
MORE THAN 350	5	6.1	23.2	-1.1	27.3	1.7	9.7	-3.4	31.6	-2.1	7.0
*INERTIA WEIGHT											
1800 - 2799	1	-17.0	0.0	-17.0	0.0	-0.3	0.0	10.0	0.0	3.4	0.0
2800 - 3799	3	-43.2	42.3	-25.2	36.1	1.7	2.3	0.2	17.9	2.5	3.7
3800 - 4799	5	6.1	23.2	-1.1	27.3	1.7	9.7	-3.4	31.6	-2.1	7.0
4800 - 5799	0										
ALL VEHICLES	9	-12.9	35.9	-10.9	29.0	1.5	7.0	-0.7	24.5	0.0	5.9

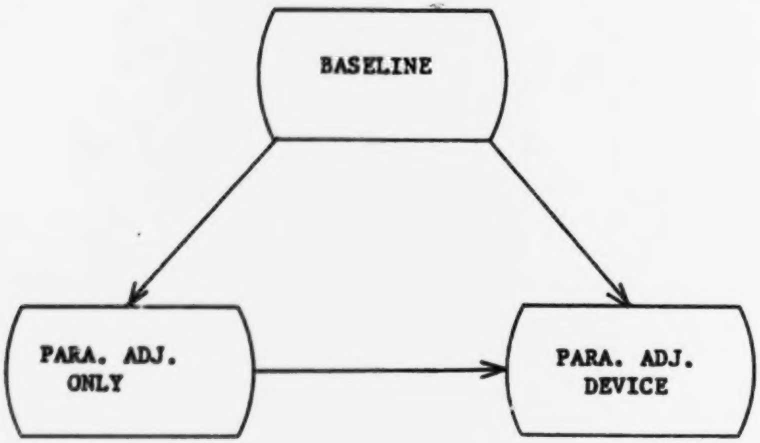
APPENDIX G

TABLES OF TEST RESULTS

DATA SET 1 PAGE G-2
DATA SET 2 PAGE G-14
DATA SET 3 PAGE G-26
DATA SET 4 PAGE G-48

1975 VEHICLES

DATA SET 1
2 VEHICLES


BASELINE
PARA. ADJ. ONLY
PARA. ADJ. DEVICE

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	3.41	0.0	70.26	0.0	447.6	0.0	3.44	0.00	15.6	0.0
FORD MOTOR CO.	0										
GENERAL MOTORS	1	1.41	0.0	31.46	0.0	530.9	0.0	0.92	0.00	15.2	0.0
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	2	2.41	1.4	50.86	27.4	489.2	58.9	2.18	1.78	15.4	0.3
*VEHICLE TYPE											
AUTOMOBILE	0										
TRUCK	2	2.41	1.4	50.86	27.4	489.2	58.9	2.18	1.78	15.4	0.3
*VEHICLE OWNER											
GSA	2	2.41	1.4	50.86	27.4	489.2	58.9	2.18	1.78	15.4	0.3
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	1	1.41	0.0	31.46	0.0	530.9	0.0	0.92	0.00	15.2	0.0
A.PMP/NO CNV	0										
NO CNV/NO APMP	1	3.41	0.0	70.26	0.0	447.6	0.0	3.44	0.00	15.6	0.0
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	2	2.41	1.4	50.86	27.4	489.2	58.9	2.18	1.78	15.4	0.3
251 - 350	0										
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	0										
3800 - 4799	2	2.41	1.4	50.86	27.4	489.2	58.9	2.18	1.78	15.4	0.3
4800 - 5799	0										
ALL VEHICLES	2	2.41	1.4	50.86	27.4	489.2	58.9	2.18	1.78	15.4	0.3

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(PARAMETRIC ADJ.)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	3.29	0.0	43.20	0.0	454.7	0.0	5.24	0.00	16.6	0.0
FORD MOTOR CO.	0										
GENERAL MOTORS	1	2.99	0.0	12.25	0.0	551.6	0.0	2.38	0.00	15.3	0.0
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	2	3.14	0.2	27.72	21.9	503.1	68.5	3.81	2.02	16.0	1.0
*VEHICLE TYPE											
AUTOMOBILE	0										
TRUCK	2	3.14	0.2	27.72	21.9	503.1	68.5	3.81	2.02	16.0	1.0
*VEHICLE OWNER											
GSA	2	3.14	0.2	27.72	21.9	503.1	68.5	3.81	2.02	16.0	1.0
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	1	2.99	0.0	12.25	0.0	551.6	0.0	2.38	0.00	15.3	0.0
A.PMP/NO CNV	0										
NO CNV/NO APMP	1	3.29	0.0	43.20	0.0	454.7	0.0	5.24	0.00	16.6	0.0
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	2	3.14	0.2	27.72	21.9	503.1	68.5	3.81	2.02	16.0	1.0
251 - 350	0										
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	0										
3800 - 4799	2	3.14	0.2	27.72	21.9	503.1	68.5	3.81	2.02	16.0	1.0
4800 - 5799	0										
ALL VEHICLES	2	3.14	0.2	27.72	21.9	503.1	68.5	3.81	2.02	16.0	1.0

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE-PARAMETRIC ADJ.)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	3.29	0.0	43.20	0.0	454.7	0.0	5.24	0.00	16.6	0.0
FORD MOTOR CO.	0										
GENERAL MOTORS	1	2.99	0.0	12.25	0.0	551.6	0.0	2.38	0.00	15.3	0.0
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	2	3.14	0.2	27.72	21.9	503.1	68.5	3.81	2.02	16.0	1.0
*VEHICLE TYPE											
AUTOMOBILE	0										
TRUCK	2	3.14	0.2	27.72	21.9	503.1	68.5	3.81	2.02	16.0	1.0
*VEHICLE OWNER											
GSA	2	3.14	0.2	27.72	21.9	503.1	68.5	3.81	2.02	16.0	1.0
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	1	2.99	0.0	12.25	0.0	551.6	0.0	2.38	0.00	15.3	0.0
A.PMP/NO CNV	0										
NO CNV/NO APMP	1	3.29	0.0	43.20	0.0	454.7	0.0	5.24	0.00	16.6	0.0
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	2	3.14	0.2	27.72	21.9	503.1	68.5	3.81	2.02	16.0	1.0
251 - 350	0										
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	0										
3800 - 4799	2	3.14	0.2	27.72	21.9	503.1	68.5	3.81	2.02	16.0	1.0
4800 - 5799	0										
ALL VEHICLES	2	3.14	0.2	27.72	21.9	503.1	68.5	3.81	2.02	16.0	1.0

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE-PARAMETRIC ADJ.)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	0.12	0.0	27.06	0.0	-7.1	0.0	-1.80	0.00	-1.0	0.0
FORD MOTOR CO.	0										
GENERAL MOTORS	1	-1.58	0.0	19.21	0.0	-20.7	0.0	-1.46	0.00	-0.1	0.0
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	2	-0.73	1.2	23.13	5.6	-13.9	9.6	-1.63	.24	-0.6	0.7
*VEHICLE TYPE											
AUTOMOBILE	0										
TRUCK	2	-0.73	1.2	23.13	5.6	-13.9	9.6	-1.63	.24	-0.6	0.7
*VEHICLE OWNER											
GSA	2	-0.73	1.2	23.13	5.6	-13.9	9.6	-1.63	.24	-0.6	0.7
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	1	-1.58	0.0	19.21	0.0	-20.7	0.0	-1.46	0.00	-0.1	0.0
A.PMP/NO CNV	0										
NO CNV/NO APMP	1	0.12	0.0	27.06	0.0	-7.1	0.0	-1.80	0.00	-1.0	0.0
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	2	-0.73	1.2	23.13	5.6	-13.9	9.6	-1.63	.24	-0.6	0.7
251 - 350	0										
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	0										
3800 - 4799	2	-0.73	1.2	23.13	5.6	-13.9	9.6	-1.63	.24	-0.6	0.7
4800 - 5799	0										
ALL VEHICLES	2	-0.73	1.2	23.13	5.6	-13.9	9.6	-1.63	.24	-0.6	0.7

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE-PARAMETRIC ADJ.)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	3.5	0.0	38.5	0.0	-1.6	0.0	-52.3	0.0	-6.7	0.0
FORD MOTOR CO.	0										
GENERAL MOTORS	1	-112.1	0.0	61.1	0.0	-3.9	0.0	-158.7	0.0	-0.7	0.0
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	2	-54.3	81.7	49.8	15.9	-2.7	1.6	-105.5	75.2	-3.7	4.2
*VEHICLE TYPE											
AUTOMOBILE	0										
TRUCK	2	-54.3	81.7	49.8	15.9	-2.7	1.6	-105.5	75.2	-3.7	4.2
*VEHICLE OWNER											
GSA	2	-54.3	81.7	49.8	15.9	-2.7	1.6	-105.5	75.2	-3.7	4.2
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	1	-112.1	0.0	61.1	0.0	-3.9	0.0	-158.7	0.0	-0.7	0.0
A.PMP/NO CNV	0										
NO CNV/NO APMP	1	3.5	0.0	38.5	0.0	-1.6	0.0	-52.3	0.0	-6.7	0.0
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	2	-54.3	81.7	49.8	15.9	-2.7	1.6	-105.5	75.2	-3.7	4.2
251 - 350	0										
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	0										
3800 - 4799	2	-54.3	81.7	49.8	15.9	-2.7	1.6	-105.5	75.2	-3.7	4.2
4800 - 5799	0										
ALL VEHICLES	2	-54.3	81.7	49.8	15.9	-2.7	1.6	-105.5	75.2	-3.7	4.2

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE--PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	3.07	0.0	37.73	0.0	453.6	0.0	3.88	0.00	17.0	0.0
FORD MOTOR CO.	0										
GENERAL MOTORS	1	0.57	0.0	11.46	0.0	532.0	0.0	2.91	0.00	16.1	0.0
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	2	1.82	1.8	24.59	18.6	492.8	55.4	3.39	.69	16.5	0.6
*VEHICLE TYPE											
AUTOMOBILE	0										
TRUCK	2	1.82	1.8	24.59	18.6	492.8	55.4	3.39	.69	16.5	0.6
*VEHICLE OWNER											
GSA	2	1.82	1.8	24.59	18.6	492.8	55.4	3.39	.69	16.5	0.6
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	1	0.57	0.0	11.46	0.0	532.0	0.0	2.91	0.00	16.1	0.0
A.PMP/NO CNV	0										
NO CNV/NO APMP	1	3.07	0.0	37.73	0.0	453.6	0.0	3.88	0.00	17.0	0.0
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	2	1.82	1.8	24.59	18.6	492.8	55.4	3.39	.69	16.5	0.6
251 - 350	0										
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	0										
3800 - 4799	2	1.82	1.8	24.59	18.6	492.8	55.4	3.39	.69	16.5	0.6
4800 - 5799	0										
ALL VEHICLES	2	1.82	1.8	24.59	18.6	492.8	55.4	3.39	.69	16.5	0.6

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE--PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	0.34	0.0	32.53	0.0	-6.0	0.0	-0.44	0.00	-1.4	0.0
FORD MOTOR CO.	0										
GENERAL MOTORS	1	0.84	0.0	20.00	0.0	-1.1	0.0	-1.99	0.00	-0.9	0.0
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	2	0.59	0.4	26.26	8.9	-3.6	3.5	-1.22	1.10	-1.1	0.3
*VEHICLE TYPE											
AUTOMOBILE	0										
TRUCK	2	0.59	0.4	26.26	8.9	-3.6	3.5	-1.22	1.10	-1.1	0.3
*VEHICLE OWNER											
GSA	2	0.59	0.4	26.26	8.9	-3.6	3.5	-1.22	1.10	-1.1	0.3
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	1	0.84	0.0	20.00	0.0	-1.1	0.0	-1.99	0.00	-0.9	0.0
A.PMP/NO CNV	0										
NO CNV/NO APMP	1	0.34	0.0	32.53	0.0	-6.0	0.0	-0.44	0.00	-1.4	0.0
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	2	0.59	0.4	26.26	8.9	-3.6	3.5	-1.22	1.10	-1.1	0.3
251 - 350	0										
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	0										
3800 - 4799	2	0.59	0.4	26.26	8.9	-3.6	3.5	-1.22	1.10	-1.1	0.3
4800 - 5799	0										
ALL VEHICLES	2	0.59	0.4	26.26	8.9	-3.6	3.5	-1.22	1.10	-1.1	0.3

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE--PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	10.0	0.0	46.3	0.0	-1.3	0.0	-12.8	0.0	-8.8	0.0
FORD MOTOR CO.	0										
GENERAL MOTORS	1	59.6	0.0	63.6	0.0	-0.2	0.0	-216.3	0.0	-5.9	0.0
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	2	34.8	35.1	54.9	12.2	-0.8	0.8	-114.5	143.9	-7.4	2.1
*VEHICLE TYPE											
AUTOMOBILE	0										
TRUCK	2	34.8	35.1	54.9	12.2	-0.8	0.8	-114.5	143.9	-7.4	2.1
*VEHICLE OWNER											
GSA	2	34.8	35.1	54.9	12.2	-0.8	0.8	-114.5	143.9	-7.4	2.1
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	1	59.6	0.0	63.6	0.0	-0.2	0.0	-216.3	0.0	-5.9	0.0
A.PMP/NO CNV	0										
NO CNV/NO APMP	1	10.0	0.0	46.3	0.0	-1.3	0.0	-12.8	0.0	-8.8	0.0
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	2	34.8	35.1	54.9	12.2	-0.8	0.8	-114.5	143.9	-7.4	2.1
251 - 350	0										
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	0										
3800 - 4799	2	34.8	35.1	54.9	12.2	-0.8	0.8	-114.5	143.9	-7.4	2.1
4800 - 5799	0										
ALL VEHICLES	2	34.8	35.1	54.9	12.2	-0.8	0.8	-114.5	143.9	-7.4	2.1

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(PARAMETRIC ADJ.-PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	3.07	0.0	37.73	0.0	453.6	0.0	3.88	0.00	17.0	0.0
FORD MOTOR CO.	0										
GENERAL MOTORS	1	0.57	0.0	11.46	0.0	532.0	0.0	2.91	0.00	16.1	0.0
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	2	1.82	1.8	24.59	18.6	492.8	55.4	3.39	.69	16.5	0.6
*VEHICLE TYPE											
AUTOMOBILE	0										
TRUCK	2	1.82	1.8	24.59	18.6	492.8	55.4	3.39	.69	16.5	0.6
*VEHICLE OWNER											
GSA	2	1.82	1.8	24.59	18.6	492.8	55.4	3.39	.69	16.5	0.6
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	1	0.57	0.0	11.46	0.0	532.0	0.0	2.91	0.00	16.1	0.0
A.PMP/NO CNV	0										
NO CNV/NO APMP	1	3.07	0.0	37.73	0.0	453.6	0.0	3.88	0.00	17.0	0.0
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	2	1.82	1.8	24.59	18.6	492.8	55.4	3.39	.69	16.5	0.6
251 - 350	0										
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	0										
3800 - 4799	2	1.82	1.8	24.59	18.6	492.8	55.4	3.39	.69	16.5	0.6
4800 - 5799	0										
ALL VEHICLES	2	1.82	1.8	24.59	18.6	492.8	55.4	3.39	.69	16.5	0.6

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(PARAMETRIC ADJ.-PARA ADJ/DEVICE)

	# OF VEH.	HC MEAN	HC S.D.	CO MEAN	CO S.D.	CO2 MEAN	CO2 S.D.	NOX MEAN	NOX S.D.	MPG MEAN	MPG S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	0.22	0.0	5.47	0.0	1.1	0.0	1.36	0.00	-0.3	0.0
FORD MOTOR CO.	0										
GENERAL MOTORS	1	2.42	0.0	0.79	0.0	19.6	0.0	-0.53	0.00	-0.8	0.0
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	2	1.32	1.6	3.13	3.3	10.3	13.1	0.41	1.34	-0.6	0.3
*VEHICLE TYPE											
AUTOMOBILE	0										
TRUCK	2	1.32	1.6	3.13	3.3	10.3	13.1	0.41	1.34	-0.6	0.3
*VEHICLE OWNER											
GSA	2	1.32	1.6	3.13	3.3	10.3	13.1	0.41	1.34	-0.6	0.3
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	1	2.42	0.0	0.79	0.0	19.6	0.0	-0.53	0.00	-0.8	0.0
A.PMP/NO CNV	0										
NO CNV/NO APMP	1	0.22	0.0	5.47	0.0	1.1	0.0	1.36	0.00	-0.3	0.0
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	2	1.32	1.6	3.13	3.3	10.3	13.1	0.41	1.34	-0.6	0.3
251 - 350	0										
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	0										
3800 - 4799	2	1.32	1.6	3.13	3.3	10.3	13.1	0.41	1.34	-0.6	0.3
4800 - 5799	0										
ALL VEHICLES	2	1.32	1.6	3.13	3.3	10.3	13.1	0.41	1.34	-0.6	0.3

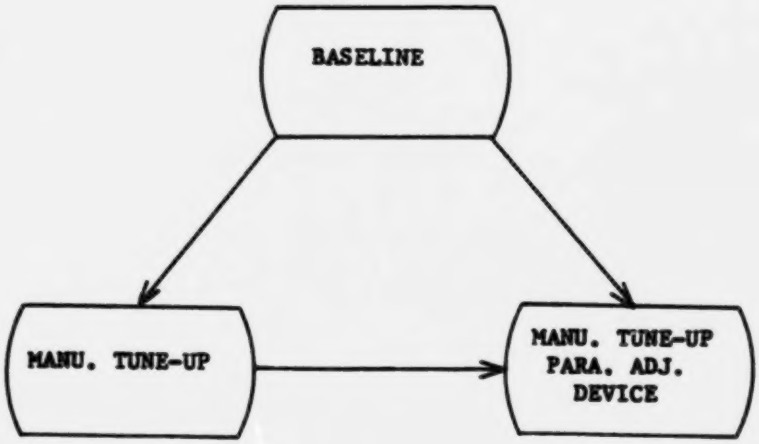
PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(PARAMETRIC ADJ.-PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	6.7	0.0	12.7	0.0	0.2	0.0	26.0	0.0	-2.0	0.0
FORD MOTOR CO.	0										
GENERAL MOTORS	1	80.9	0.0	6.4	0.0	3.6	0.0	-22.3	0.0	-5.2	0.0
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	2	43.8	52.5	9.6	4.4	1.9	2.3	1.8	34.1	-3.6	2.3
*VEHICLE TYPE											
AUTOMOBILE	0										
TRUCK	2	43.8	52.5	9.6	4.4	1.9	2.3	1.8	34.1	-3.6	2.3
*VEHICLE OWNER											
GSA	2	43.8	52.5	9.6	4.4	1.9	2.3	1.8	34.1	-3.6	2.3
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	1	80.9	0.0	6.4	0.0	3.6	0.0	-22.3	0.0	-5.2	0.0
A.PMP/NO CNV	0										
NO CNV/NO APMP	1	6.7	0.0	12.7	0.0	0.2	0.0	26.0	0.0	-2.0	0.0
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	2	43.8	52.5	9.6	4.4	1.9	2.3	1.8	34.1	-3.6	2.3
251 - 350	0										
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	0										
3800 - 4799	2	43.8	52.5	9.6	4.4	1.9	2.3	1.8	34.1	-3.6	2.3
4800 - 5799	0										
ALL VEHICLES	2	43.8	52.5	9.6	4.4	1.9	2.3	1.8	34.1	-3.6	2.3

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

1975 VEHICLES

DATA SET 2
5 VEHICLES


BASELINE
MANU. TUNE-UP
MANU. TUNE-UP
PARA. ADJ.
DEVICE

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	2.23	0.0	70.26	0.0	402.7	0.0	1.82	0.00	17.1	0.0
CHRYSLER	0										
FORD MOTOR CO.	0										
GENERAL MOTORS	3	2.06	0.7	34.96	21.8	525.6	129.9	1.48	.35	15.4	2.9
IMPORTS	1	0.60	0.0	8.50	0.0	352.2	0.0	1.40	0.00	24.1	0.0
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	5	1.80	0.8	36.73	26.8	466.3	123.8	1.53	.30	17.5	4.3
***VEHICLE TYPE**											
AUTOMOBILE	3	1.79	1.0	43.51	31.7	379.6	25.5	1.43	.37	20.0	3.7
TRUCK	2	1.81	0.8	26.55	22.9	596.4	60.5	1.68	.10	13.8	0.5
***VEHICLE OWNER**											
GSA	1	2.35	0.0	42.76	0.0	553.6	0.0	1.61	0.00	14.1	0.0
PRIVATE OWNER	4	1.66	0.9	35.22	30.7	444.5	131.4	1.51	.34	18.4	4.4
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	1	1.28	0.0	10.35	0.0	639.2	0.0	1.75	0.00	13.5	0.0
CNV/NO A.PMP	2	2.44	0.1	47.27	6.4	468.8	119.9	1.34	.37	16.4	3.3
A.PMP/NO CNV	1	0.60	0.0	8.50	0.0	352.2	0.0	1.40	0.00	24.1	0.0
NO CNV/NO APMP	1	2.23	0.0	70.26	0.0	402.7	0.0	1.82	0.00	17.1	0.0
***DISPLACEMENT**											
LESS THAN 151	1	0.60	0.0	8.50	0.0	352.2	0.0	1.40	0.00	24.1	0.0
151 - 250	2	2.44	0.1	47.27	6.4	468.8	119.9	1.34	.37	16.4	3.3
251 - 350	2	1.75	0.7	40.30	42.4	520.9	167.2	1.78	.05	15.3	2.5
MORE THAN 350	0										
***INERTIA WEIGHT**											
1800 - 2799	0										
2800 - 3799	3	1.79	1.0	43.51	31.7	379.6	25.5	1.43	.37	20.0	3.7
3800 - 4799	2	1.81	0.8	26.55	22.9	596.4	60.5	1.68	.10	13.8	0.5
4800 - 5799	0										
ALL VEHICLES	5	1.80	0.8	36.73	26.8	466.3	123.8	1.53	.30	17.5	4.3

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	1.99	0.0	53.88	0.0	397.3	0.0	1.28	0.00	18.2	0.0
CHRYSLER	0										
FORD MOTOR CO.	0										
GENERAL MOTORS	3	1.81	0.9	29.25	22.6	513.6	140.0	1.51	.55	16.1	3.0
IMPORTS	1	0.48	0.0	6.40	0.0	341.9	0.0	1.45	0.00	25.1	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	5	1.58	0.9	29.60	23.2	456.0	128.1	1.45	.40	18.3	4.4
*VEHICLE TYPE											
AUTOMOBILE	3	1.75	1.2	38.41	27.7	368.8	27.7	1.27	.19	20.8	3.7
TRUCK	2	1.32	0.3	16.39	5.4	586.7	84.2	1.72	.57	14.5	1.8
*VEHICLE OWNER											
GSA	1	1.54	0.0	20.19	0.0	527.2	0.0	2.13	0.00	15.7	0.0
PRIVATE OWNER	4	1.59	1.0	31.96	26.1	438.2	140.6	1.28	.15	18.9	4.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	1	1.11	0.0	12.59	0.0	646.3	0.0	1.32	0.00	13.3	0.0
CNV/NO A.PMP	2	2.16	0.9	37.57	24.6	447.2	113.1	1.60	.74	17.5	2.4
A.PMP/NO CNV	1	0.48	0.0	6.40	0.0	341.9	0.0	1.45	0.00	25.1	0.0
NO CNV/NO APMP	1	1.99	0.0	53.88	0.0	397.3	0.0	1.28	0.00	18.2	0.0
*DISPLACEMENT											
LESS THAN 151	1	0.48	0.0	6.40	0.0	341.9	0.0	1.45	0.00	25.1	0.0
151 - 250	2	2.16	0.9	37.57	24.6	447.2	113.1	1.60	.74	17.5	2.4
251 - 350	2	1.55	0.6	33.24	29.2	521.8	176.1	1.30	.03	15.7	3.5
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	3	1.75	1.2	38.41	27.7	368.8	27.7	1.27	.19	20.8	3.7
3800 - 4799	2	1.32	0.3	16.39	5.4	586.7	84.2	1.72	.57	14.5	1.8
4800 - 5799	0										
ALL VEHICLES	5	1.58	0.9	29.60	23.2	456.0	128.1	1.45	.40	18.3	4.4

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	1.99	0.0	53.88	0.0	397.3	0.0	1.28	0.00	18.2	0.0
CHRYSLER	0										
FORD MOTOR CO.	0										
GENERAL MOTORS	3	1.81	0.9	29.25	22.6	513.6	140.0	1.51	.55	16.1	3.0
IMPORTS	1	0.48	0.0	6.40	0.0	341.9	0.0	1.45	0.00	25.1	0.0
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	5	1.58	0.9	29.60	23.2	456.0	128.1	1.45	.40	18.3	4.4
***VEHICLE TYPE**											
AUTOMOBILE	3	1.75	1.2	38.41	27.7	368.8	27.7	1.27	.19	20.8	3.7
TRUCK	2	1.32	0.3	16.39	5.4	586.7	84.2	1.72	.57	14.5	1.8
***VEHICLE OWNER**											
GSA	1	1.54	0.0	20.19	0.0	527.2	0.0	2.13	0.00	15.7	0.0
PRIVATE OWNER	4	1.59	1.0	31.96	26.1	438.2	140.6	1.28	.15	18.9	4.9
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	1	1.11	0.0	12.59	0.0	646.3	0.0	1.32	0.00	13.3	0.0
CNV/NO A.PMP	2	2.16	0.9	37.57	24.6	447.2	113.1	1.60	.74	17.5	2.4
A.PMP/NO CNV	1	0.48	0.0	6.40	0.0	341.9	0.0	1.45	0.00	25.1	0.0
NO CNV/NO APMP	1	1.99	0.0	53.88	0.0	397.3	0.0	1.28	0.00	18.2	0.0
***DISPLACEMENT**											
LESS THAN 151	1	0.48	0.0	6.40	0.0	341.9	0.0	1.45	0.00	25.1	0.0
151 - 250	2	2.16	0.9	37.57	24.6	447.2	113.1	1.60	.74	17.5	2.4
251 - 350	2	1.55	0.6	33.24	29.2	521.8	176.1	1.30	.03	15.7	3.5
MORE THAN 350	0										
***INERTIA WEIGHT**											
1800 - 2799	0										
2800 - 3799	3	1.75	1.2	38.41	27.7	368.8	27.7	1.27	.19	20.8	3.7
3800 - 4799	2	1.32	0.3	16.39	5.4	586.7	84.2	1.72	.57	14.5	1.8
4800 - 5799	0										
ALL VEHICLES	5	1.58	0.9	29.60	23.2	456.0	128.1	1.45	.40	18.3	4.4

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	0.24	0.0	16.38	0.0	5.4	0.0	0.54	0.00	-1.1	0.0
CHRYSLER	0										
FORD MOTOR CO.	0										
GENERAL MOTORS	3	0.25	0.5	5.72	14.6	12.0	17.2	-0.03	.48	-0.6	0.9
IMPORTS	1	0.12	0.0	2.10	0.0	10.3	0.0	-0.05	0.00	-1.0	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	5	0.22	0.4	7.13	11.7	10.3	12.5	0.08	.42	-0.8	0.7
*VEHICLE TYPE											
AUTOMOBILE	3	0.04	0.2	5.10	10.1	10.8	5.7	0.16	.33	-0.8	0.4
TRUCK	2	0.49	0.5	10.16	17.5	9.7	23.7	-0.05	.67	-0.7	1.3
*VEHICLE OWNER											
GSA	1	0.81	0.0	22.57	0.0	26.4	0.0	-0.52	0.00	-1.6	0.0
PRIVATE OWNER	4	0.07	0.2	3.26	9.0	6.3	10.1	0.23	.30	-0.6	0.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	1	0.17	0.0	-2.24	0.0	-7.1	0.0	0.43	0.00	0.2	0.0
CNV/NO A.PMP	2	0.29	0.7	9.69	18.2	21.6	6.9	-0.26	.37	-1.0	0.8
A.PMP/NO CNV	1	0.12	0.0	2.10	0.0	10.3	0.0	-0.05	0.00	-1.0	0.0
NO CNV/NO APMP	1	0.24	0.0	16.38	0.0	5.4	0.0	0.54	0.00	-1.1	0.0
*DISPLACEMENT											
LESS THAN 151	1	0.12	0.0	2.10	0.0	10.3	0.0	-0.05	0.00	-1.0	0.0
151 - 250	2	0.29	0.7	9.69	18.2	21.6	6.9	-0.26	.37	-1.0	0.8
251 - 350	2	0.20	0.0	7.07	13.2	-0.9	8.8	0.49	.08	-0.5	0.9
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	3	0.04	0.2	5.10	10.1	10.8	5.7	0.16	.33	-0.8	0.4
3800 - 4799	2	0.49	0.5	10.16	17.5	9.7	23.7	-0.05	.67	-0.7	1.3
4800 - 5799	0										
ALL VEHICLES	5	0.22	0.4	7.13	11.7	10.3	12.5	0.08	.42	-0.8	0.7

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	10.8	0.0	23.3	0.0	1.3	0.0	29.7	0.0	-6.6	0.0
CHRYSLER	0										
FORD MOTOR CO.	0										
GENERAL MOTORS	3	12.8	22.0	8.3	39.3	2.7	3.3	-2.6	28.5	-4.1	6.6
IMPORTS	1	20.0	0.0	24.7	0.0	2.9	0.0	-3.6	0.0	-4.0	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	5	13.8	15.9	14.6	29.1	2.5	2.4	3.7	24.9	-4.6	4.8
*VEHICLE TYPE											
AUTOMOBILE	3	7.1	15.1	14.0	17.4	2.9	1.5	8.7	18.2	-4.3	2.1
TRUCK	2	23.9	15.0	15.6	52.6	1.8	4.2	-3.9	40.2	-5.0	9.1
*VEHICLE OWNER											
GSA	1	34.5	0.0	52.8	0.0	4.8	0.0	-32.3	0.0	-11.4	0.0
PRIVATE OWNER	4	8.6	12.7	5.1	22.8	1.9	2.3	12.7	16.9	-2.9	3.4
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	1	13.3	0.0	-21.6	0.0	-1.1	0.0	24.6	0.0	1.5	0.0
CNV/NO A.PMP	2	12.5	31.1	23.3	41.7	4.6	0.3	-16.1	22.8	-6.9	6.4
A.PMP/NO CNV	1	20.0	0.0	24.7	0.0	2.9	0.0	-3.6	0.0	-4.0	0.0
NO CNV/NO APMP	1	10.8	0.0	23.3	0.0	1.3	0.0	29.7	0.0	-6.6	0.0
*DISPLACEMENT											
LESS THAN 151	1	20.0	0.0	24.7	0.0	2.9	0.0	-3.6	0.0	-4.0	0.0
151 - 250	2	12.5	31.1	23.3	41.7	4.6	0.3	-16.1	22.8	-6.9	6.4
251 - 350	2	12.0	1.8	0.8	31.8	0.1	1.7	27.1	3.6	-2.5	5.7
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	3	7.1	15.1	14.0	17.4	2.9	1.5	8.7	18.2	-4.3	2.1
3800 - 4799	2	23.9	15.0	15.6	52.6	1.8	4.2	-3.9	40.2	-5.0	9.1
4800 - 5799	0										
ALL VEHICLES	5	13.8	15.9	14.6	29.1	2.5	2.4	3.7	24.9	-4.6	4.8

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	1.32	0.0	9.26	0.0	442.7	0.0	3.75	0.00	19.2	0.0
CHRYSLER	0										
FORD MOTOR CO.	0										
GENERAL MOTORS	3	1.62	0.7	21.12	17.6	496.1	105.7	2.60	1.38	16.9	2.4
IMPORTS	1	0.52	0.0	3.35	0.0	326.7	0.0	2.00	0.00	26.6	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	5	1.34	0.7	15.19	15.0	451.6	104.9	2.71	1.16	19.3	4.6
*VEHICLE TYPE											
AUTOMOBILE	3	1.42	1.0	17.99	20.5	389.7	58.6	2.47	1.12	21.5	4.4
TRUCK	2	1.22	0.1	10.99	1.6	544.4	91.5	3.06	1.58	15.9	2.5
*VEHICLE OWNER											
GSA	1	1.17	0.0	12.11	0.0	479.7	0.0	4.18	0.00	17.7	0.0
PRIVATE OWNER	4	1.38	0.8	15.96	17.2	444.5	119.7	2.34	.95	19.7	5.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	1	1.26	0.0	9.87	0.0	609.1	0.0	1.94	0.00	14.1	0.0
CNV/NO A.PMP	2	1.80	0.9	26.74	20.7	439.6	56.6	2.93	1.77	18.2	0.8
A.PMP/NO CNV	1	0.52	0.0	3.35	0.0	326.7	0.0	2.00	0.00	26.6	0.0
NO CNV/NO APMP	1	1.32	0.0	9.26	0.0	442.7	0.0	3.75	0.00	19.2	0.0
*DISPLACEMENT											
LESS THAN 151	1	0.52	0.0	3.35	0.0	326.7	0.0	2.00	0.00	26.6	0.0
151 - 250	2	1.80	0.9	26.74	20.7	439.6	56.6	2.93	1.77	18.2	0.8
251 - 350	2	1.29	0.0	9.56	0.4	525.9	117.7	2.84	1.28	16.7	3.6
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	3	1.42	1.0	17.99	20.5	389.7	58.6	2.47	1.12	21.5	4.4
3800 - 4799	2	1.22	0.1	10.99	1.6	544.4	91.5	3.06	1.58	15.9	2.5
4800 - 5799	0										
ALL VEHICLES	5	1.34	0.7	15.19	15.0	451.6	104.9	2.71	1.16	19.3	4.6

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	0.91	0.0	61.00	0.0	-40.0	0.0	-1.93	0.00	-2.2	0.0
CHRYSLER	0										
FORD MOTOR CO.	0										
GENERAL MOTORS	3	0.44	0.6	13.85	15.4	29.5	44.8	-1.12	1.27	-1.4	1.9
IMPORTS	1	0.08	0.0	5.15	0.0	25.5	0.0	-0.60	0.00	-2.5	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	5	0.46	0.5	21.54	24.9	14.8	44.1	-1.18	1.02	-1.8	1.4
*VEHICLE TYPE											
AUTOMOBILE	3	0.37	0.5	25.52	30.8	-10.0	33.1	-1.04	.77	-1.6	1.3
TRUCK	2	0.60	0.8	15.56	21.3	52.0	31.0	-1.38	1.68	-2.1	2.0
*VEHICLE OWNER											
GSA	1	1.18	0.0	30.65	0.0	73.9	0.0	-2.57	0.00	-3.5	0.0
PRIVATE OWNER	4	0.28	0.4	19.26	28.1	-0.0	33.7	-0.83	.76	-1.3	1.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	1	0.02	0.0	0.48	0.0	30.1	0.0	-0.19	0.00	-0.7	0.0
CNV/NO A.PMP	2	0.65	0.7	20.53	14.3	29.2	63.3	-1.58	1.40	-1.8	2.5
A.PMP/NO CNV	1	0.08	0.0	5.15	0.0	25.5	0.0	-0.60	0.00	-2.5	0.0
NO CNV/NO APMP	1	0.91	0.0	61.00	0.0	-40.0	0.0	-1.93	0.00	-2.2	0.0
*DISPLACEMENT											
LESS THAN 151	1	0.08	0.0	5.15	0.0	25.5	0.0	-0.60	0.00	-2.5	0.0
151 - 250	2	0.65	0.7	20.53	14.3	29.2	63.3	-1.58	1.40	-1.8	2.5
251 - 350	2	0.46	0.6	30.74	42.8	-5.0	49.6	-1.06	1.23	-1.4	1.1
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	3	0.37	0.5	25.52	30.8	-10.0	33.1	-1.04	.77	-1.6	1.3
3800 - 4799	2	0.60	0.8	15.56	21.3	52.0	31.0	-1.38	1.68	-2.1	2.0
4800 - 5799	0										
ALL VEHICLES	5	0.46	0.5	21.54	24.9	14.8	44.1	-1.18	1.02	-1.8	1.4

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	40.8	0.0	86.8	0.0	-9.9	0.0	-106.0	0.0	-12.7	0.0
CHRYSLER	0										
FORD MOTOR CO.	0										
GENERAL MOTORS	3	18.8	27.2	32.1	35.1	4.7	8.7	-75.0	76.5	-10.1	13.2
IMPORTS	1	13.3	0.0	60.6	0.0	7.2	0.0	-42.9	0.0	-10.2	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	5	22.1	22.0	48.8	34.9	2.3	9.3	-74.8	58.5	-10.6	9.4
*VEHICLE TYPE											
AUTOMOBILE	3	19.6	18.8	55.8	33.6	-2.3	8.7	-67.8	33.6	-7.7	6.6
TRUCK	2	25.9	34.4	38.2	47.4	9.0	6.1	-85.2	105.2	-15.0	14.2
*VEHICLE OWNER											
GSA	1	50.2	0.0	71.7	0.0	13.3	0.0	-159.6	0.0	-25.1	0.0
PRIVATE OWNER	4	15.1	17.8	43.0	37.5	-0.5	7.9	-53.6	39.6	-7.0	5.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	1	1.6	0.0	4.6	0.0	4.7	0.0	-10.9	0.0	-4.9	0.0
CNV/NO A.PMP	2	27.5	32.2	45.9	36.5	4.6	12.3	-107.1	74.2	-12.6	17.6
A.PMP/NO CNV	1	13.3	0.0	60.6	0.0	7.2	0.0	-42.9	0.0	-10.2	0.0
NO CNV/NO APMP	1	40.8	0.0	86.8	0.0	-9.9	0.0	-106.0	0.0	-12.7	0.0
*DISPLACEMENT											
LESS THAN 151	1	13.3	0.0	60.6	0.0	7.2	0.0	-42.9	0.0	-10.2	0.0
151 - 250	2	27.5	32.2	45.9	36.5	4.6	12.3	-107.1	74.2	-12.6	17.6
251 - 350	2	21.2	27.8	45.7	58.1	-2.6	10.4	-58.5	67.3	-8.8	5.5
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	3	19.6	18.8	55.8	33.6	-2.3	8.7	-67.8	33.6	-7.7	6.6
3800 - 4799	2	25.9	34.4	38.2	47.4	9.0	6.1	-85.2	105.2	-15.0	14.2
4800 - 5799	0										
ALL VEHICLES	5	22.1	22.0	48.8	34.9	2.3	9.3	-74.8	58.5	-10.6	9.4

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(MANU. TUNE-UP---TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	1.32	0.0	9.26	0.0	442.7	0.0	3.75	0.00	19.2	0.0
CHRYSLER	0										
FORD MOTOR CO.	0										
GENERAL MOTORS	3	1.62	0.7	21.12	17.6	496.1	105.7	2.60	1.38	16.9	2.4
IMPORTS	1	0.52	0.0	3.35	0.0	326.7	0.0	2.00	0.00	26.6	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	5	1.34	0.7	15.19	15.0	451.6	104.9	2.71	1.16	19.3	4.6
*VEHICLE TYPE											
AUTOMOBILE	3	1.42	1.0	17.99	20.5	389.7	58.6	2.47	1.12	21.5	4.4
TRUCK	2	1.22	0.1	10.99	1.6	544.4	91.5	3.06	1.58	15.9	2.5
*VEHICLE OWNER											
GSA	1	1.17	0.0	12.11	0.0	479.7	0.0	4.18	0.00	17.7	0.0
PRIVATE OWNER	4	1.38	0.8	15.96	17.2	444.5	119.7	2.34	.95	19.7	5.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	1	1.26	0.0	9.87	0.0	609.1	0.0	1.94	0.00	14.1	0.0
CNV/NO A.PMP	2	1.80	0.9	26.74	20.7	439.6	56.6	2.93	1.77	18.2	0.8
A.PMP/NO CNV	1	0.52	0.0	3.35	0.0	326.7	0.0	2.00	0.00	26.6	0.0
NO CNV/NO APMP	1	1.32	0.0	9.26	0.0	442.7	0.0	3.75	0.00	19.2	0.0
*DISPLACEMENT											
LESS THAN 151	1	0.52	0.0	3.35	0.0	326.7	0.0	2.00	0.00	26.6	0.0
151 - 250	2	1.80	0.9	26.74	20.7	439.6	56.6	2.93	1.77	18.2	0.8
251 - 350	2	1.29	0.0	9.56	0.4	525.9	117.7	2.84	1.28	16.7	3.6
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	3	1.42	1.0	17.99	20.5	389.7	58.6	2.47	1.12	21.5	4.4
3800 - 4799	2	1.22	0.1	10.99	1.6	544.4	91.5	3.06	1.58	15.9	2.5
4800 - 5799	0										
ALL VEHICLES	5	1.34	0.7	15.19	15.0	451.6	104.9	2.71	1.16	19.3	4.6

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(MANU. TUNE-UP---TUNEUP/PARADJ/DEV)

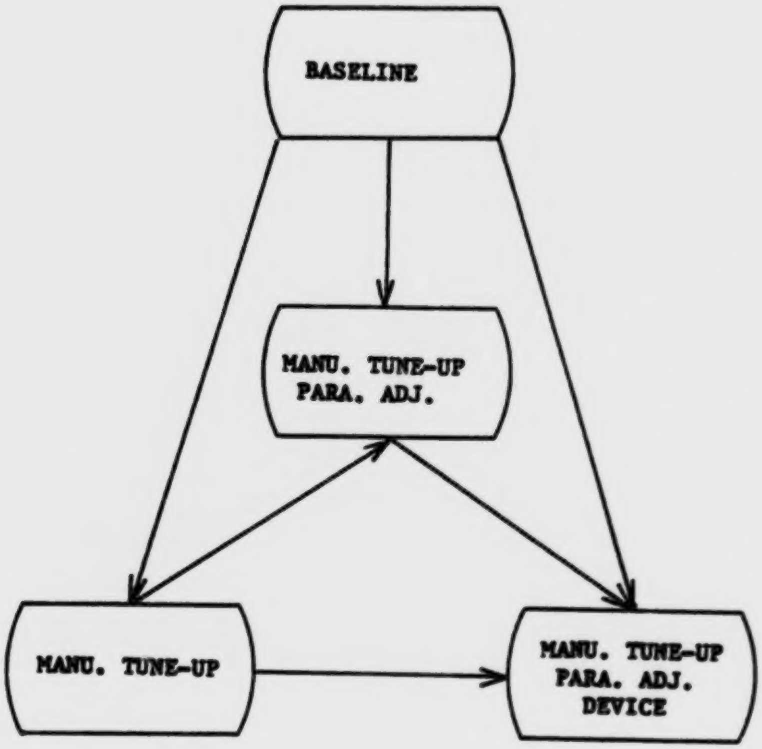
	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	0.67	0.0	44.62	0.0	-45.4	0.0	-2.47	0.00	-1.1	0.0
CHRYSLER	0										
FORD MOTOR CO.	0										
GENERAL MOTORS	3	0.19	0.3	8.13	5.4	17.5	43.4	-1.09	.83	-0.8	1.2
IMPORTS	1	-0.04	0.0	3.05	0.0	15.2	0.0	-0.55	0.00	-1.5	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	5	0.24	0.3	14.41	17.5	4.4	41.5	-1.26	.93	-1.0	0.9
*VEHICLE TYPE											
AUTOMOBILE	3	0.33	0.4	20.42	21.6	-20.8	31.9	-1.20	1.10	-0.7	1.0
TRUCK	2	0.11	0.4	5.40	3.8	42.3	7.3	-1.34	1.01	-1.4	0.8
*VEHICLE OWNER											
GSA	1	0.37	0.0	8.08	0.0	47.5	0.0	-2.05	0.00	-1.9	0.0
PRIVATE OWNER	4	0.21	0.4	15.99	19.7	-6.3	39.0	-1.06	.94	-0.8	0.8
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	1	-0.15	0.0	2.72	0.0	37.2	0.0	-0.62	0.00	-0.9	0.0
CNV/NO A.PMP	2	0.36	0.0	10.84	3.9	7.6	56.4	-1.32	1.03	-0.8	1.6
A.PMP/NO CNV	1	-0.04	0.0	3.05	0.0	15.2	0.0	-0.55	0.00	-1.5	0.0
NO CNV/NO APMP	1	0.67	0.0	44.62	0.0	-45.4	0.0	-2.47	0.00	-1.1	0.0
*DISPLACEMENT											
LESS THAN 151	1	-0.04	0.0	3.05	0.0	15.2	0.0	-0.55	0.00	-1.5	0.0
151 - 250	2	0.36	0.0	10.84	3.9	7.6	56.4	-1.32	1.03	-0.8	1.6
251 - 350	2	0.26	0.6	23.67	29.6	-4.1	58.4	-1.55	1.31	-1.0	0.1
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	3	0.33	0.4	20.42	21.6	-20.8	31.9	-1.20	1.10	-0.7	1.0
3800 - 4799	2	0.11	0.4	5.40	3.8	42.3	7.3	-1.34	1.01	-1.4	0.8
4800 - 5799	0										
ALL VEHICLES	5	0.24	0.3	14.41	17.5	4.4	41.5	-1.26	.93	-1.0	0.9

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(MANU. TUNE-UP---TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	33.7	0.0	82.8	0.0	-11.4	0.0	-193.0	0.0	-5.8	0.0
CHRYSLER	0										
FORD MOTOR CO.	0										
GENERAL MOTORS	3	7.8	19.3	28.8	9.9	2.0	9.5	-65.9	26.5	-5.6	7.2
IMPORTS	1	-8.3	0.0	47.7	0.0	4.4	0.0	-37.9	0.0	-6.0	0.0
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	5	9.8	20.3	43.4	24.5	-0.2	9.2	-85.7	64.0	-5.7	5.1
***VEHICLE TYPE**											
AUTOMOBILE	3	12.8	21.0	51.7	29.3	-5.3	8.5	-95.2	85.1	-3.2	4.6
TRUCK	2	5.3	26.5	30.8	13.0	7.4	2.3	-71.6	34.8	-9.4	4.1
***VEHICLE OWNER**											
GSA	1	24.0	0.0	40.0	0.0	9.0	0.0	-96.2	0.0	-12.3	0.0
PRIVATE OWNER	4	6.2	21.6	44.2	28.2	-2.5	8.9	-83.1	73.5	-4.0	4.1
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	1	-13.5	0.0	21.6	0.0	5.8	0.0	-47.0	0.0	-6.5	0.0
CNV/NO A.PMP	2	18.5	7.8	32.4	10.8	0.1	12.6	-75.4	29.4	-5.1	10.1
A.PMP/NO CNV	1	-8.3	0.0	47.7	0.0	4.4	0.0	-37.9	0.0	-6.0	0.0
NO CNV/NO APMP	1	33.7	0.0	82.8	0.0	-11.4	0.0	-193.0	0.0	-5.8	0.0
***DISPLACEMENT**											
LESS THAN 151	1	-8.3	0.0	47.7	0.0	4.4	0.0	-37.9	0.0	-6.0	0.0
151 - 250	2	18.5	7.8	32.4	10.8	0.1	12.6	-75.4	29.4	-5.1	10.1
251 - 350	2	10.1	33.4	52.2	43.3	-2.8	12.2	-120.0	103.2	-6.1	0.5
MORE THAN 350	0										
***INERTIA WEIGHT**											
1800 - 2799	0										
2800 - 3799	3	12.8	21.0	51.7	29.3	-5.3	8.5	-95.2	85.1	-3.2	4.6
3800 - 4799	2	5.3	26.5	30.8	13.0	7.4	2.3	-71.6	34.8	-9.4	4.1
4800 - 5799	0										
ALL VEHICLES	5	9.8	20.3	43.4	24.5	-0.2	9.2	-85.7	64.0	-5.7	5.1

1975 VEHICLES

DATA SET 3
15 VEHICLES


BASELINE
MANU. TUNE-UP
PARA. ADJ.
MANU. TUNE-UP
MANU. TUNE-UP
PARA. ADJ.
DEVICE

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	2.04	0.0	31.86	0.0	644.9	0.0	3.04	0.00	12.6	0.0
FORD MOTOR CO.	1	0.80	0.0	7.46	0.0	681.5	0.0	0.83	0.00	12.8	0.0
GENERAL MOTORS	12	1.75	0.7	52.50	30.4	613.7	67.6	1.23	.44	12.8	1.5
IMPORTS	1	1.44	0.0	35.99	0.0	330.2	0.0	1.81	0.00	22.7	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	1.68	0.7	47.02	29.8	601.4	97.8	1.36	.64	13.4	2.9
*VEHICLE TYPE											
AUTOMOBILE	15	1.68	0.7	47.02	29.8	601.4	97.8	1.36	.64	13.4	2.9
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	1.68	0.7	47.02	29.8	601.4	97.8	1.36	.64	13.4	2.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	1.11	0.7	13.94	12.4	650.4	94.6	1.73	1.18	13.3	2.0
CNV/NO A.PMP	10	1.93	0.6	61.36	24.6	608.9	51.0	1.17	.20	12.6	1.1
A.PMP/NO CNV	1	1.44	0.0	35.99	0.0	330.2	0.0	1.81	0.00	22.7	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	0.98	0.6	24.03	16.9	427.4	137.5	1.22	.83	19.5	4.5
151 - 250	0										
251 - 350	11	1.90	0.6	55.03	29.3	611.3	48.1	1.30	.61	12.7	1.0
MORE THAN 350	2	1.19	0.1	25.99	30.6	720.9	41.9	1.84	.81	11.6	0.1
*INERTIA WEIGHT											
1800 - 2799	1	0.53	0.0	12.07	0.0	524.6	0.0	0.63	0.00	16.3	0.0
2800 - 3799	2	1.12	0.5	21.72	20.2	505.8	248.4	1.32	.69	17.7	7.0
3800 - 4799	11	1.92	0.6	54.75	29.8	617.6	61.0	1.45	.68	12.6	1.0
4800 - 5799	1	1.29	0.0	47.60	0.0	691.3	0.0	1.26	0.00	11.5	0.0
ALL VEHICLES	15	1.68	0.7	47.02	29.8	601.4	97.8	1.36	.64	13.4	2.9

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	1.49	0.0	31.46	0.0	769.1	0.0	2.67	0.00	10.8	0.0
FORD MOTOR CO.	1	0.84	0.0	7.31	0.0	681.1	0.0	2.34	0.00	12.8	0.0
GENERAL MOTORS	12	1.54	0.4	42.68	20.8	628.8	66.5	1.12	.39	12.8	1.3
IMPORTS	1	1.79	0.0	53.57	0.0	340.4	0.0	1.47	0.00	20.6	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	1.51	0.4	40.30	21.0	622.4	104.7	1.33	.60	13.2	2.4
*VEHICLE TYPE											
AUTOMOBILE	15	1.51	0.4	40.30	21.0	622.4	104.7	1.33	.60	13.2	2.4
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	1.51	0.4	40.30	21.0	622.4	104.7	1.33	.60	13.2	2.4
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	1.37	0.4	14.85	12.3	673.7	108.8	1.91	.89	12.9	2.3
CNV/NO A.PMP	10	1.54	0.4	49.15	15.6	630.1	55.2	1.08	.29	12.5	0.9
A.PMP/NO CNV	1	1.79	0.0	53.57	0.0	340.4	0.0	1.47	0.00	20.6	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	1.60	0.3	35.10	26.1	430.0	126.7	1.06	.58	18.4	3.2
151 - 250	0										
251 - 350	11	1.50	0.5	45.09	19.6	643.7	67.6	1.29	.64	12.4	1.0
MORE THAN 350	2	1.49	0.4	19.17	21.5	697.8	38.3	1.82	.21	12.1	0.1
*INERTIA WEIGHT											
1800 - 2799	1	1.41	0.0	16.63	0.0	519.6	0.0	0.65	0.00	16.1	0.0
2800 - 3799	2	1.31	0.7	30.44	32.7	510.7	240.9	1.90	.62	16.7	5.6
3800 - 4799	11	1.58	0.4	44.78	20.3	647.7	71.2	1.25	.58	12.4	1.0
4800 - 5799	1	1.23	0.0	34.34	0.0	670.7	0.0	1.67	0.00	12.2	0.0
ALL VEHICLES	15	1.51	0.4	40.30	21.0	622.4	104.7	1.33	.60	13.2	2.4

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(TUNE-UP/PARA ADJ)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	2.07	0.0	27.58	0.0	706.8	0.0	3.54	0.00	11.7	0.0
FORD MOTOR CO.	1	0.81	0.0	4.15	0.0	630.6	0.0	3.07	0.00	13.9	0.0
GENERAL MOTORS	12	1.45	0.3	32.85	16.8	601.3	83.9	1.48	.60	13.8	2.2
IMPORTS	1	2.04	0.0	58.00	0.0	346.4	0.0	1.23	0.00	20.0	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	1.49	0.4	32.26	18.1	593.3	104.7	1.70	.85	14.1	2.6
*VEHICLE TYPE											
AUTOMOBILE	15	1.49	0.4	32.26	18.1	593.3	104.7	1.70	.85	14.1	2.6
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	1.49	0.4	32.26	18.1	593.3	104.7	1.70	.85	14.1	2.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	1.42	0.5	12.26	10.9	626.6	141.3	2.55	1.15	14.3	3.8
CNV/NO A.PMP	10	1.46	0.4	37.69	13.6	604.6	54.7	1.41	.49	13.4	1.2
A.PMP/NO CNV	1	2.04	0.0	58.00	0.0	346.4	0.0	1.23	0.00	20.0	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	1.72	0.4	35.26	32.2	386.5	56.7	1.07	.23	19.8	0.2
151 - 250	0										
251 - 350	11	1.51	0.4	35.44	15.7	616.3	60.4	1.72	.91	13.2	1.2
MORE THAN 350	2	1.14	0.4	11.78	9.9	673.4	97.8	2.26	.62	12.8	1.5
*INERTIA WEIGHT											
1800 - 2799	1	1.41	0.0	12.53	0.0	426.6	0.0	0.91	0.00	19.7	0.0
2800 - 3799	2	1.42	0.9	31.07	38.1	488.5	201.0	2.15	1.30	16.9	4.3
3800 - 4799	11	1.57	0.3	35.50	15.6	626.5	71.5	1.69	.86	13.0	1.3
4800 - 5799	1	0.88	0.0	18.78	0.0	604.3	0.0	1.82	0.00	13.9	0.0
ALL VEHICLES	15	1.49	0.4	32.26	18.1	593.3	104.7	1.70	.85	14.1	2.6

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	1.49	0.0	31.46	0.0	769.1	0.0	2.67	0.00	10.8	0.0
FORD MOTOR CO.	1	0.84	0.0	7.31	0.0	681.1	0.0	2.34	0.00	12.8	0.0
GENERAL MOTORS	12	1.54	0.4	42.68	20.8	628.8	66.5	1.12	.39	12.8	1.3
IMPORTS	1	1.79	0.0	53.57	0.0	340.4	0.0	1.47	0.00	20.6	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	1.51	0.4	40.30	21.0	622.4	104.7	1.33	.60	13.2	2.4
*VEHICLE TYPE											
AUTOMOBILE	15	1.51	0.4	40.30	21.0	622.4	104.7	1.33	.60	13.2	2.4
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	1.51	0.4	40.30	21.0	622.4	104.7	1.33	.60	13.2	2.4
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	1.37	0.4	14.85	12.3	673.7	108.8	1.91	.89	12.9	2.3
CNV/NO A.PMP	10	1.54	0.4	49.15	15.6	630.1	55.2	1.08	.29	12.5	0.9
A.PMP/NO CNV	1	1.79	0.0	53.57	0.0	340.4	0.0	1.47	0.00	20.6	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	1.60	0.3	35.10	26.1	430.0	126.7	1.06	.58	18.4	3.2
151 - 250	0										
251 - 350	11	1.50	0.5	45.09	19.6	643.7	67.6	1.29	.64	12.4	1.0
MORE THAN 350	2	1.49	0.4	19.17	21.5	697.8	38.3	1.82	.21	12.1	0.1
*INERTIA WEIGHT											
1800 - 2799	1	1.41	0.0	16.63	0.0	519.6	0.0	0.65	0.00	16.1	0.0
2800 - 3799	2	1.31	0.7	30.44	32.7	510.7	240.9	1.90	.62	16.7	5.6
3800 - 4799	11	1.58	0.4	44.78	20.3	647.7	71.2	1.25	.58	12.4	1.0
4800 - 5799	1	1.23	0.0	34.34	0.0	670.7	0.0	1.67	0.00	12.2	0.0
ALL VEHICLES	15	1.51	0.4	40.30	21.0	622.4	104.7	1.33	.60	13.2	2.4

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	0.55	0.0	0.40	0.0	-124.2	0.0	0.37	0.00	1.9	0.0
FORD MOTOR CO.	1	-0.04	0.0	0.15	0.0	0.4	0.0	-1.51	0.00	-0.0	0.0
GENERAL MOTORS	12	0.20	0.6	9.83	21.7	-15.1	32.5	0.11	.26	0.0	0.6
IMPORTS	1	-0.35	0.0	-17.58	0.0	-10.2	0.0	0.34	0.00	2.0	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	0.17	0.5	6.73	20.7	-21.0	40.8	0.04	.49	0.3	0.9
*VEHICLE TYPE											
AUTOMOBILE	15	0.17	0.5	6.73	20.7	-21.0	40.8	0.04	.49	0.3	0.9
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	0.17	0.5	6.73	20.7	-21.0	40.8	0.04	.49	0.3	0.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	-0.26	0.6	-0.91	2.4	-23.3	68.2	-0.18	.91	0.4	1.0
CNV/NO A.PMP	10	0.40	0.3	12.21	23.2	-21.2	32.0	0.09	.26	0.1	0.7
A.PMP/NO CNV	1	-0.35	0.0	-17.58	0.0	-10.2	0.0	0.34	0.00	2.0	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	-0.61	0.4	-11.07	9.2	-2.6	10.7	0.16	.25	1.1	1.3
151 - 250	0										
251 - 350	11	0.40	0.3	9.94	22.5	-32.4	41.4	0.02	.54	0.3	0.8
MORE THAN 350	2	-0.30	0.5	6.83	9.1	23.2	3.6	0.01	.60	-0.5	0.2
*INERTIA WEIGHT											
1800 - 2799	1	-0.88	0.0	-4.56	0.0	5.0	0.0	-0.02	0.00	0.1	0.0
2800 - 3799	2	-0.20	0.2	-8.71	12.5	-4.9	7.5	-0.58	1.31	1.0	1.5
3800 - 4799	11	0.35	0.5	9.96	22.5	-30.1	44.0	0.19	.21	0.2	0.8
4800 - 5799	1	0.06	0.0	13.26	0.0	20.6	0.0	-0.41	0.00	-0.7	0.0
ALL VEHICLES	15	0.17	0.5	6.73	20.7	-21.0	40.8	0.04	.49	0.3	0.9

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	27.0	0.0	1.3	0.0	-19.3	0.0	12.2	0.0	14.8	0.0
FORD MOTOR CO.	1	-5.0	0.0	2.0	0.0	0.1	0.0	-181.9	0.0	-0.1	0.0
GENERAL MOTORS	12	-4.1	57.4	10.2	25.3	-2.6	5.3	7.0	20.4	-0.1	5.0
IMPORTS	1	-24.3	0.0	-48.8	0.0	-3.1	0.0	18.8	0.0	9.0	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	-3.5	51.9	5.1	27.1	-3.6	6.4	-4.4	52.4	1.5	6.2
*VEHICLE TYPE											
AUTOMOBILE	15	-3.5	51.9	5.1	27.1	-3.6	6.4	-4.4	52.4	1.5	6.2
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	-3.5	51.9	5.1	27.1	-3.6	6.4	-4.4	52.4	1.5	6.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	-51.2	84.7	-6.4	21.2	-3.7	10.5	-38.7	95.9	3.1	8.0
CNV/NO A.PMP	10	17.7	15.4	15.1	22.3	-3.6	5.3	6.9	22.0	0.1	5.4
A.PMP/NO CNV	1	-24.3	0.0	-48.8	0.0	-3.1	0.0	18.8	0.0	9.0	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	-95.2	100.2	-43.3	7.8	-1.1	2.9	7.8	15.5	5.0	5.7
151 - 250	0										
251 - 350	11	17.7	16.0	11.5	21.3	-5.3	6.6	-6.2	60.5	2.0	6.4
MORE THAN 350	2	-27.9	46.1	18.4	13.4	3.2	0.3	-7.1	35.9	-4.5	1.7
*INERTIA WEIGHT											
1800 - 2799	1	-166.0	0.0	-37.8	0.0	1.0	0.0	-3.2	0.0	0.9	0.0
2800 - 3799	2	-14.7	13.7	-23.4	36.0	-1.5	2.2	-81.6	141.9	4.5	6.4
3800 - 4799	11	12.6	28.1	12.1	21.1	-5.0	6.9	12.0	16.3	1.7	6.6
4800 - 5799	1	4.7	0.0	27.9	0.0	3.0	0.0	-32.5	0.0	-5.7	0.0
ALL VEHICLES	15	-3.5	51.9	5.1	27.1	-3.6	6.4	-4.4	52.4	1.5	6.2

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE-TUNE-UP/PARA ADJ)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	2.07	0.0	27.58	0.0	706.8	0.0	3.54	0.00	11.7	0.0
FORD MOTOR CO.	1	0.81	0.0	4.15	0.0	630.6	0.0	3.07	0.00	13.9	0.0
GENERAL MOTORS	12	1.45	0.3	32.85	16.8	601.3	83.9	1.48	.60	13.8	2.2
IMPORTS	1	2.04	0.0	58.00	0.0	346.4	0.0	1.23	0.00	20.0	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	1.49	0.4	32.26	18.1	593.3	104.7	1.70	.85	14.1	2.6
*VEHICLE TYPE											
AUTOMOBILE	15	1.49	0.4	32.26	18.1	593.3	104.7	1.70	.85	14.1	2.6
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	1.49	0.4	32.26	18.1	593.3	104.7	1.70	.85	14.1	2.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	1.42	0.5	12.26	10.9	626.6	141.3	2.55	1.15	14.3	3.8
CNV/NO A.PMP	10	1.46	0.4	37.69	13.6	604.6	54.7	1.41	.49	13.4	1.2
A.PMP/NO CNV	1	2.04	0.0	58.00	0.0	346.4	0.0	1.23	0.00	20.0	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	1.72	0.4	35.26	32.2	386.5	56.7	1.07	.23	19.8	0.2
151 - 250	0										
251 - 350	11	1.51	0.4	35.44	15.7	616.3	60.4	1.72	.91	13.2	1.2
MORE THAN 350	2	1.14	0.4	11.78	9.9	673.4	97.8	2.26	.62	12.8	1.5
*INERTIA WEIGHT											
1800 - 2799	1	1.41	0.0	12.53	0.0	426.6	0.0	0.91	0.00	19.7	0.0
2800 - 3799	2	1.42	0.9	31.07	38.1	488.5	201.0	2.15	1.30	16.9	4.3
3800 - 4799	11	1.57	0.3	35.50	15.6	626.5	71.5	1.69	.86	13.0	1.3
4800 - 5799	1	0.88	0.0	18.78	0.0	604.3	0.0	1.82	0.00	13.9	0.0
ALL VEHICLES	15	1.49	0.4	32.26	18.1	593.3	104.7	1.70	.85	14.1	2.6

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EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE-TUNE-UP/PARA ADJ)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	-0.03	0.0	4.28	0.0	-61.9	0.0	-0.50	0.00	0.9	0.0
FORD MOTOR CO.	1	-0.01	0.0	3.31	0.0	50.9	0.0	-2.24	0.00	-1.1	0.0
GENERAL MOTORS	12	0.29	0.7	19.66	24.6	12.4	46.5	-0.25	.34	-1.0	1.2
IMPORTS	1	-0.60	0.0	-22.01	0.0	-16.2	0.0	0.58	0.00	2.7	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	0.19	0.7	14.76	24.7	8.1	47.3	-0.34	.65	-0.6	1.5
*VEHICLE TYPE											
AUTOMOBILE	15	0.19	0.7	14.76	24.7	8.1	47.3	-0.34	.65	-0.6	1.5
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	0.19	0.7	14.76	24.7	8.1	47.3	-0.34	.65	-0.6	1.5
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	-0.31	0.4	1.68	2.5	23.7	67.9	-0.83	.95	-0.9	1.9
CNV/NO A.PMP	10	0.47	0.6	23.67	25.2	4.3	41.8	-0.24	.37	-0.8	1.0
A.PMP/NO CNV	1	-0.60	0.0	-22.01	0.0	-16.2	0.0	0.58	0.00	2.7	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	-0.74	0.2	-11.23	15.2	40.9	80.8	0.15	.61	-0.4	4.3
151 - 250	0										
251 - 350	11	0.39	0.6	19.59	25.1	-5.0	38.1	-0.42	.70	-0.5	0.9
MORE THAN 350	2	0.05	0.5	14.21	20.7	47.5	55.9	-0.42	.19	-1.3	1.6
*INERTIA WEIGHT											
1800 - 2799	1	-0.88	0.0	-0.46	0.0	98.0	0.0	-0.28	0.00	-3.4	0.0
2800 - 3799	2	-0.31	0.4	-9.35	17.9	17.3	47.4	-0.83	1.99	0.8	2.7
3800 - 4799	11	0.36	0.6	19.25	25.3	-8.9	33.7	-0.24	.35	-0.4	0.9
4800 - 5799	1	0.41	0.0	28.82	0.0	87.0	0.0	-0.56	0.00	-2.4	0.0
ALL VEHICLES	15	0.19	0.7	14.76	24.7	8.1	47.3	-0.34	.65	-0.6	1.5

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PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE-TUNE-UP/PARA ADJ)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	-1.5	0.0	13.4	0.0	-9.6	0.0	-16.4	0.0	7.3	0.0
FORD MOTOR CO.	1	-1.2	0.0	44.4	0.0	7.5	0.0	-269.9	0.0	-8.7	0.0
GENERAL MOTORS	12	-3.1	63.4	26.6	29.5	2.1	7.9	-21.0	26.8	-7.4	8.9
IMPORTS	1	-41.7	0.0	-61.2	0.0	-4.9	0.0	32.0	0.0	11.9	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	-5.4	57.1	21.0	35.2	1.2	8.0	-33.8	70.8	-5.2	9.9
*VEHICLE TYPE											
AUTOMOBILE	15	-5.4	57.1	21.0	35.2	1.2	8.0	-33.8	70.8	-5.2	9.9
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	-5.4	57.1	21.0	35.2	1.2	8.0	-33.8	70.8	-5.2	9.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	-49.5	78.8	11.2	24.1	4.4	11.8	-85.7	123.6	-5.8	12.0
CNV/NO A.PMP	10	15.8	38.6	33.2	27.8	0.6	6.5	-19.6	28.4	-6.7	8.4
A.PMP/NO CNV	1	-41.7	0.0	-61.2	0.0	-4.9	0.0	32.0	0.0	11.9	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	-103.9	87.9	-32.5	40.5	6.9	16.7	-6.2	54.1	-4.5	23.2
151 - 250	0										
251 - 350	11	11.3	36.8	29.9	25.7	-0.8	6.1	-39.8	80.5	-4.3	7.5
MORE THAN 350	2	1.2	43.2	25.7	49.3	6.8	8.1	-28.2	22.9	-10.9	14.2
*INERTIA WEIGHT											
1800 - 2799	1	-166.0	0.0	-3.8	0.0	18.7	0.0	-44.4	0.0	-20.9	0.0
2800 - 3799	2	-21.5	28.6	-8.4	74.6	1.3	8.8	-118.9	213.5	1.6	14.5
3800 - 4799	11	8.7	38.7	25.1	27.7	-1.4	5.5	-16.3	25.7	-3.6	7.5
4800 - 5799	1	31.8	0.0	60.5	0.0	12.6	0.0	-44.4	0.0	-21.0	0.0
ALL VEHICLES	15	-5.4	57.1	21.0	35.2	1.2	8.0	-33.8	70.8	-5.2	9.9

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	1.69	0.0	24.69	0.0	583.4	0.0	2.82	0.00	14.1	0.0
FORD MOTOR CO.	1	0.79	0.0	3.39	0.0	596.1	0.0	3.98	0.00	14.7	0.0
GENERAL MOTORS	12	0.92	0.4	21.81	13.6	609.1	82.3	1.69	.30	14.0	2.5
IMPORTS	1	1.04	0.0	21.34	0.0	348.4	0.0	1.96	0.00	23.0	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	0.97	0.4	20.75	13.0	589.2	99.0	1.94	.69	14.7	3.2
*VEHICLE TYPE											
AUTOMOBILE	15	0.97	0.4	20.75	13.0	589.2	99.0	1.94	.69	14.7	3.2
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	0.97	0.4	20.75	13.0	589.2	99.0	1.94	.69	14.7	3.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	1.02	0.6	9.59	10.4	576.1	134.4	2.67	1.00	15.6	4.0
CNV/NO A.PMP	10	0.94	0.4	25.15	12.3	618.5	41.9	1.65	.27	13.5	0.9
A.PMP/NO CNV	1	1.04	0.0	21.34	0.0	348.4	0.0	1.96	0.00	23.0	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	1.17	0.2	14.81	9.2	373.7	35.8	1.80	.23	22.2	1.2
151 - 250	0										
251 - 350	11	1.01	0.4	23.64	13.3	612.8	41.4	1.96	.80	13.6	0.9
MORE THAN 350	2	0.56	0.4	10.78	12.4	674.6	72.4	1.98	.35	12.8	1.0
*INERTIA WEIGHT											
1800 - 2799	1	1.30	0.0	8.28	0.0	399.1	0.0	1.64	0.00	21.3	0.0
2800 - 3799	2	0.91	0.2	12.36	12.7	472.2	175.2	2.97	1.43	18.9	5.9
3800 - 4799	11	0.96	0.5	23.51	13.5	624.6	53.0	1.80	.46	13.4	0.9
4800 - 5799	1	0.83	0.0	19.58	0.0	623.4	0.0	1.74	0.00	13.5	0.0
ALL VEHICLES	15	0.97	0.4	20.75	13.0	589.2	99.0	1.94	.69	14.7	3.2

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	0.35	0.0	7.17	0.0	61.5	0.0	0.22	0.00	-1.5	0.0
FORD MOTOR CO.	1	0.01	0.0	4.07	0.0	85.4	0.0	-3.15	0.00	-1.9	0.0
GENERAL MOTORS	12	0.83	0.7	30.69	24.8	4.6	58.2	-0.46	.34	-1.2	1.4
IMPORTS	1	0.40	0.0	14.65	0.0	-18.2	0.0	-0.15	0.00	-0.4	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	0.71	0.7	26.28	23.9	12.2	57.7	-0.58	.80	-1.2	1.3
*VEHICLE TYPE											
AUTOMOBILE	15	0.71	0.7	26.28	23.9	12.2	57.7	-0.58	.80	-1.2	1.3
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	0.71	0.7	26.28	23.9	12.2	57.7	-0.58	.80	-1.2	1.3
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	0.10	0.7	4.36	2.0	74.3	42.3	-0.94	1.58	-2.2	2.0
CNV/NO A.PMP	10	0.99	0.6	36.21	23.4	-9.5	47.4	-0.47	.26	-0.9	0.9
A.PMP/NO CNV	1	0.40	0.0	14.65	0.0	-18.2	0.0	-0.15	0.00	-0.4	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	-0.19	0.8	9.22	7.7	53.7	101.6	-0.58	.61	-2.7	3.3
151 - 250	0										
251 - 350	11	0.89	0.6	31.39	25.5	-1.5	52.5	-0.65	.89	-1.0	0.8
MORE THAN 350	2	0.63	0.2	15.21	18.1	46.4	30.5	-0.15	.47	-1.2	1.1
*INERTIA WEIGHT											
1800 - 2799	1	-0.77	0.0	3.79	0.0	125.5	0.0	-1.01	0.00	-5.1	0.0
2800 - 3799	2	0.20	0.3	9.36	7.5	33.6	73.3	-1.65	2.12	-1.1	1.1
3800 - 4799	11	0.96	0.6	31.24	25.7	-7.0	45.1	-0.35	.37	-0.8	0.8
4800 - 5799	1	0.46	0.0	28.02	0.0	67.9	0.0	-0.48	0.00	-2.0	0.0
ALL VEHICLES	15	0.71	0.7	26.28	23.9	12.2	57.7	-0.58	.80	-1.2	1.3

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	17.2	0.0	22.5	0.0	9.5	0.0	7.2	0.0	-11.8	0.0
FORD MOTOR CO.	1	1.2	0.0	54.6	0.0	12.5	0.0	-379.5	0.0	-15.2	0.0
GENERAL MOTORS	12	33.7	60.0	54.4	18.9	0.6	10.3	-48.8	46.5	-9.3	9.7
IMPORTS	1	27.8	0.0	40.7	0.0	-5.5	0.0	-8.3	0.0	-1.6	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	30.1	53.9	51.3	18.9	1.6	10.1	-64.4	97.9	-9.4	9.0
*VEHICLE TYPE											
AUTOMOBILE	15	30.1	53.9	51.3	18.9	1.6	10.1	-64.4	97.9	-9.4	9.0
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	30.1	53.9	51.3	18.9	1.6	10.1	-64.4	97.9	-9.4	9.0
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	-13.4	93.2	40.8	16.4	12.3	8.6	-131.3	183.4	-15.6	11.3
CNV/NO A.PMP	10	47.7	21.0	56.6	19.3	-1.9	7.9	-43.2	29.6	-7.6	7.5
A.PMP/NO CNV	1	27.8	0.0	40.7	0.0	-5.5	0.0	-8.3	0.0	-1.6	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	-58.8	122.4	36.1	6.6	9.2	20.8	-84.3	107.5	-16.3	20.8
151 - 250	0										
251 - 350	11	41.8	25.6	53.1	21.0	-0.7	8.6	-69.7	107.6	-7.8	6.9
MORE THAN 350	2	54.5	26.7	56.8	3.0	6.6	4.6	-15.3	32.2	-10.8	9.2
*INERTIA WEIGHT											
1800 - 2799	1	-145.3	0.0	31.4	0.0	23.9	0.0	-160.3	0.0	-31.0	0.0
2800 - 3799	2	14.5	18.8	47.6	9.8	3.5	12.8	-193.9	262.5	-8.4	9.6
3800 - 4799	11	48.3	23.3	53.2	21.0	-1.5	7.6	-34.5	34.8	-6.8	6.6
4800 - 5799	1	35.7	0.0	58.9	0.0	9.8	0.0	-38.1	0.0	-17.3	0.0
ALL VEHICLES	15	30.1	53.9	51.3	18.9	1.6	10.1	-64.4	97.9	-9.4	9.0

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(MANU. TUNE-UP--TUNE-UP/PARA ADJ)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	2.07	0.0	27.58	0.0	706.8	0.0	3.54	0.00	11.7	0.0
FORD MOTOR CO.	1	0.81	0.0	4.15	0.0	630.6	0.0	3.07	0.00	13.9	0.0
GENERAL MOTORS	12	1.45	0.3	32.85	16.8	601.3	83.9	1.48	.60	13.8	2.2
IMPORTS	1	2.04	0.0	58.00	0.0	346.4	0.0	1.23	0.00	20.0	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	1.49	0.4	32.26	18.1	593.3	104.7	1.70	.85	14.1	2.6
*VEHICLE TYPE											
AUTOMOBILE	15	1.49	0.4	32.26	18.1	593.3	104.7	1.70	.85	14.1	2.6
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	1.49	0.4	32.26	18.1	593.3	104.7	1.70	.85	14.1	2.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	1.42	0.5	12.26	10.9	626.6	141.3	2.55	1.15	14.3	3.8
CNV/NO A.PMP	10	1.46	0.4	37.69	13.6	604.6	54.7	1.41	.49	13.4	1.2
A.PMP/NO CNV	1	2.04	0.0	58.00	0.0	346.4	0.0	1.23	0.00	20.0	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	1.72	0.4	35.26	32.2	386.5	56.7	1.07	.23	19.8	0.2
151 - 250	0										
251 - 350	11	1.51	0.4	35.44	15.7	616.3	60.4	1.72	.91	13.2	1.2
MORE THAN 350	2	1.14	0.4	11.78	9.9	673.4	97.8	2.26	.62	12.8	1.5
*INERTIA WEIGHT											
1800 - 2799	1	1.41	0.0	12.53	0.0	426.6	0.0	0.91	0.00	19.7	0.0
2800 - 3799	2	1.42	0.9	31.07	38.1	488.5	201.0	2.15	1.30	16.9	4.3
3800 - 4799	11	1.57	0.3	35.50	15.6	626.5	71.5	1.69	.86	13.0	1.3
4800 - 5799	1	0.88	0.0	18.78	0.0	604.3	0.0	1.82	0.00	13.9	0.0
ALL VEHICLES	15	1.49	0.4	32.26	18.1	593.3	104.7	1.70	.85	14.1	2.6

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EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(MANU. TUNE-UP--TUNE-UP/PARA ADJ)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	-0.58	0.0	3.88	0.0	62.3	0.0	-0.87	0.00	-0.9	0.0
FORD MOTOR CO.	1	0.03	0.0	3.16	0.0	50.5	0.0	-0.73	0.00	-1.1	0.0
GENERAL MOTORS	12	0.09	0.4	9.83	15.4	27.5	28.8	-0.36	.33	-1.0	1.1
IMPORTS	1	-0.25	0.0	-4.43	0.0	-6.0	0.0	0.24	0.00	0.6	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	0.02	0.4	8.04	14.2	29.1	29.2	-0.38	.37	-0.9	1.0
*VEHICLE TYPE											
AUTOMOBILE	15	0.02	0.4	8.04	14.2	29.1	29.2	-0.38	.37	-0.9	1.0
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	0.02	0.4	8.04	14.2	29.1	29.2	-0.38	.37	-0.9	1.0
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	-0.05	0.4	2.59	2.3	47.0	46.7	-0.65	.27	-1.3	1.6
CNV/NO A.PMP	10	0.07	0.5	11.47	16.4	25.5	17.6	-0.33	.34	-0.9	0.7
A.PMP/NO CNV	1	-0.25	0.0	-4.43	0.0	-6.0	0.0	0.24	0.00	0.6	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	-0.13	0.2	-0.16	6.0	43.5	70.0	-0.01	.35	-1.5	3.0
151 - 250	0										
251 - 350	11	-0.02	0.5	9.65	15.8	27.4	17.4	-0.43	.36	-0.8	0.6
MORE THAN 350	2	0.34	0.0	7.38	11.6	24.3	59.5	-0.44	.41	-0.7	1.4
*INERTIA WEIGHT											
1800 - 2799	1	0.00	0.0	4.10	0.0	93.0	0.0	-0.26	0.00	-3.6	0.0
2800 - 3799	2	-0.11	0.2	-0.63	5.4	22.2	40.0	-0.24	.69	-0.2	1.2
3800 - 4799	11	0.01	0.5	9.29	16.0	21.2	20.3	-0.43	.36	-0.7	0.6
4800 - 5799	1	0.35	0.0	15.56	0.0	66.4	0.0	-0.15	0.00	-1.8	0.0
ALL VEHICLES	15	0.02	0.4	8.04	14.2	29.1	29.2	-0.38	.37	-0.9	1.0

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(MANU. TUNE-UP--TUNE-UP/PARA ADJ)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	-38.9	0.0	12.3	0.0	8.1	0.0	-32.6	0.0	-8.8	0.0
FORD MOTOR CO.	1	3.6	0.0	43.2	0.0	7.4	0.0	-31.2	0.0	-8.6	0.0
GENERAL MOTORS	12	0.7	30.6	17.6	26.0	4.6	5.2	-32.2	26.1	-7.3	7.1
IMPORTS	1	-14.0	0.0	-8.3	0.0	-1.8	0.0	16.3	0.0	3.1	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	-2.8	29.1	17.2	25.0	4.6	5.0	-28.9	26.3	-6.8	6.9
*VEHICLE TYPE											
AUTOMOBILE	15	-2.8	29.1	17.2	25.0	4.6	5.0	-28.9	26.3	-6.8	6.9
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	-2.8	29.1	17.2	25.0	4.6	5.0	-28.9	26.3	-6.8	6.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	-4.0	24.8	15.1	26.5	7.7	8.3	-35.2	4.1	-9.3	10.0
CNV/NO A.PMP	10	-1.1	33.1	20.6	25.6	4.0	2.6	-30.9	28.7	-6.8	5.2
A.PMP/NO CNV	1	-14.0	0.0	-8.3	0.0	-1.8	0.0	16.3	0.0	3.1	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	-7.0	9.9	8.2	23.3	8.1	13.9	-11.8	39.8	-9.5	17.8
151 - 250	0										
251 - 350	11	-6.8	31.8	19.7	24.2	4.2	2.4	-33.1	26.2	-6.5	4.4
MORE THAN 350	2	23.9	6.4	12.8	46.0	3.7	8.7	-23.0	19.9	-6.0	11.9
*INERTIA WEIGHT											
1800 - 2799	1	0.0	0.0	24.7	0.0	17.9	0.0	-40.0	0.0	-22.1	0.0
2800 - 3799	2	-5.2	12.4	17.5	36.4	2.8	6.5	-7.4	33.6	-2.8	8.3
3800 - 4799	11	-5.4	32.6	13.9	25.5	3.3	2.8	-33.6	26.2	-5.5	5.1
4800 - 5799	1	28.5	0.0	45.3	0.0	9.9	0.0	-9.0	0.0	-14.4	0.0
ALL VEHICLES	15	-2.8	29.1	17.2	25.0	4.6	5.0	-28.9	26.3	-6.8	6.9

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EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(MANU. TUNE-UP---TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	1.69	0.0	24.69	0.0	583.4	0.0	2.82	0.00	14.1	0.0
FORD MOTOR CO.	1	0.79	0.0	3.39	0.0	596.1	0.0	3.98	0.00	14.7	0.0
GENERAL MOTORS	12	0.92	0.4	21.81	13.6	609.1	82.3	1.69	.30	14.0	2.5
IMPORTS	1	1.04	0.0	21.34	0.0	348.4	0.0	1.96	0.00	23.0	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	0.97	0.4	20.75	13.0	589.2	99.0	1.94	.69	14.7	3.2
*VEHICLE TYPE											
AUTOMOBILE	15	0.97	0.4	20.75	13.0	589.2	99.0	1.94	.69	14.7	3.2
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	0.97	0.4	20.75	13.0	589.2	99.0	1.94	.69	14.7	3.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	1.02	0.6	9.59	10.4	576.1	134.4	2.67	1.00	15.6	4.0
CNV/NO A.PMP	10	0.94	0.4	25.15	12.3	618.5	41.9	1.65	.27	13.5	0.9
A.PMP/NO CNV	1	1.04	0.0	21.34	0.0	348.4	0.0	1.96	0.00	23.0	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	1.17	0.2	14.81	9.2	373.7	35.8	1.80	.23	22.2	1.2
151 - 250	0										
251 - 350	11	1.01	0.4	23.64	13.3	612.8	41.4	1.96	.80	13.6	0.9
MORE THAN 350	2	0.56	0.4	10.78	12.4	674.6	72.4	1.98	.35	12.8	1.0
*INERTIA WEIGHT											
1800 - 2799	1	1.30	0.0	8.28	0.0	399.1	0.0	1.64	0.00	21.3	0.0
2800 - 3799	2	0.91	0.2	12.36	12.7	472.2	175.2	2.97	1.43	18.9	5.9
3800 - 4799	11	0.96	0.5	23.51	13.5	624.6	53.0	1.80	.46	13.4	0.9
4800 - 5799	1	0.83	0.0	19.58	0.0	623.4	0.0	1.74	0.00	13.5	0.0
ALL VEHICLES	15	0.97	0.4	20.75	13.0	589.2	99.0	1.94	.69	14.7	3.2

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(MANU. TUNE-UP---TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	-0.20	0.0	6.77	0.0	185.7	0.0	-0.15	0.00	-3.4	0.0
FORD MOTOR CO.	1	0.05	0.0	3.92	0.0	85.0	0.0	-1.64	0.00	-1.9	0.0
GENERAL MOTORS	12	0.62	0.6	20.86	14.3	19.7	48.3	-0.58	.34	-1.2	1.4
IMPORTS	1	0.75	0.0	32.23	0.0	-8.0	0.0	-0.49	0.00	-2.4	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	0.54	0.6	19.55	14.2	33.3	62.9	-0.61	.43	-1.5	1.4
*VEHICLE TYPE											
AUTOMOBILE	15	0.54	0.6	19.55	14.2	33.3	62.9	-0.61	.43	-1.5	1.4
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	0.54	0.6	19.55	14.2	33.3	62.9	-0.61	.43	-1.5	1.4
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	0.35	0.7	5.26	2.8	97.6	77.8	-0.76	.70	-2.6	2.2
CNV/NO A.PMP	10	0.59	0.5	24.00	13.4	11.7	40.0	-0.57	.33	-1.0	0.8
A.PMP/NO CNV	1	0.75	0.0	32.23	0.0	-8.0	0.0	-0.49	0.00	-2.4	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	0.43	0.5	20.29	16.9	56.3	90.9	-0.74	.35	-3.8	2.0
151 - 250	0										
251 - 350	11	0.49	0.6	21.45	14.7	30.9	66.9	-0.67	.44	-1.2	1.0
MORE THAN 350	2	0.93	0.7	8.38	9.0	23.2	34.1	-0.16	.13	-0.7	0.9
*INERTIA WEIGHT											
1800 - 2799	1	0.11	0.0	8.35	0.0	120.5	0.0	-0.99	0.00	-5.2	0.0
2800 - 3799	2	0.40	0.5	18.07	20.0	38.5	65.8	-1.06	.81	-2.2	0.3
3800 - 4799	11	0.62	0.6	21.28	15.0	23.1	64.9	-0.55	.32	-1.1	1.1
4800 - 5799	1	0.40	0.0	14.76	0.0	47.3	0.0	-0.07	0.00	-1.3	0.0
ALL VEHICLES	15	0.54	0.6	19.55	14.2	33.3	62.9	-0.61	.43	-1.5	1.4

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(MANU. TUNE-UP---TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	-13.4	0.0	21.5	0.0	24.1	0.0	-5.6	0.0	-31.2	0.0
FORD MOTOR CO.	1	6.0	0.0	53.6	0.0	12.5	0.0	-70.1	0.0	-15.1	0.0
GENERAL MOTORS	12	37.0	28.4	48.2	17.6	3.2	8.6	-64.1	49.0	-9.3	9.3
IMPORTS	1	41.9	0.0	60.2	0.0	-2.4	0.0	-33.3	0.0	-11.7	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	31.9	29.3	47.6	17.5	4.8	9.7	-58.6	46.6	-11.3	10.0
*VEHICLE TYPE											
AUTOMOBILE	15	31.9	29.3	47.6	17.5	4.8	9.7	-58.6	46.6	-11.3	10.0
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	31.9	29.3	47.6	17.5	4.8	9.7	-58.6	46.6	-11.3	10.0
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	20.9	42.8	43.9	15.0	14.9	11.3	-60.3	67.7	-19.9	14.9
CNV/NO A.PMP	10	35.3	25.4	47.8	19.4	1.5	6.4	-60.4	42.0	-7.9	6.1
A.PMP/NO CNV	1	41.9	0.0	60.2	0.0	-2.4	0.0	-33.3	0.0	-11.7	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	24.9	24.1	55.2	7.0	10.4	18.1	-92.8	84.1	-22.0	14.5
151 - 250	0										
251 - 350	11	28.5	29.2	46.4	20.1	4.1	9.5	-61.4	39.8	-10.4	9.2
MORE THAN 350	2	58.0	36.0	46.6	5.1	3.5	5.1	-8.7	6.4	-5.9	7.1
*INERTIA WEIGHT											
1800 - 2799	1	7.8	0.0	50.2	0.0	23.2	0.0	-152.3	0.0	-32.2	0.0
2800 - 3799	2	23.9	25.4	56.9	4.6	5.1	10.5	-51.7	26.0	-13.4	2.4
3800 - 4799	11	35.5	32.4	46.1	20.1	2.9	9.1	-56.2	42.1	-9.1	9.5
4800 - 5799	1	32.5	0.0	43.0	0.0	7.1	0.0	-4.2	0.0	-10.9	0.0
ALL VEHICLES	15	31.9	29.3	47.6	17.5	4.8	9.7	-58.6	46.6	-11.3	10.0

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(TUNE-UP/PARA ADJ--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	1.69	0.0	24.69	0.0	583.4	0.0	2.82	0.00	14.1	0.0
FORD MOTOR CO.	1	0.79	0.0	3.39	0.0	596.1	0.0	3.98	0.00	14.7	0.0
GENERAL MOTORS	12	0.92	0.4	21.81	13.6	609.1	82.3	1.69	.30	14.0	2.5
IMPORTS	1	1.04	0.0	21.34	0.0	348.4	0.0	1.96	0.00	23.0	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	0.97	0.4	20.75	13.0	589.2	99.0	1.94	.69	14.7	3.2
*VEHICLE TYPE											
AUTOMOBILE	15	0.97	0.4	20.75	13.0	589.2	99.0	1.94	.69	14.7	3.2
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	0.97	0.4	20.75	13.0	589.2	99.0	1.94	.69	14.7	3.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	1.02	0.6	9.59	10.4	576.1	134.4	2.67	1.00	15.6	4.0
CNV/NO A.PMP	10	0.94	0.4	25.15	12.3	618.5	41.9	1.65	.27	13.5	0.9
A.PMP/NO CNV	1	1.04	0.0	21.34	0.0	348.4	0.0	1.96	0.00	23.0	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	1.17	0.2	14.81	9.2	373.7	35.8	1.80	.23	22.2	1.2
151 - 250	0										
251 - 350	11	1.01	0.4	23.64	13.3	612.8	41.4	1.96	.80	13.6	0.9
MORE THAN 350	2	0.56	0.4	10.78	12.4	674.6	72.4	1.98	.35	12.8	1.0
*INERTIA WEIGHT											
1800 - 2799	1	1.30	0.0	8.28	0.0	399.1	0.0	1.64	0.00	21.3	0.0
2800 - 3799	2	0.91	0.2	12.36	12.7	472.2	175.2	2.97	1.43	18.9	5.9
3800 - 4799	11	0.96	0.5	23.51	13.5	624.6	53.0	1.80	.46	13.4	0.9
4800 - 5799	1	0.83	0.0	19.58	0.0	623.4	0.0	1.74	0.00	13.5	0.0
ALL VEHICLES	15	0.97	0.4	20.75	13.0	589.2	99.0	1.94	.69	14.7	3.2

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(TUNE-UP/PARA ADJ--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	0.38	0.0	2.89	0.0	123.4	0.0	0.72	0.00	-2.4	0.0
FORD MOTOR CO.	1	0.02	0.0	0.76	0.0	34.5	0.0	-0.91	0.00	-0.8	0.0
GENERAL MOTORS	12	0.53	0.4	11.03	12.1	-7.8	36.8	-0.22	.42	-0.3	0.9
IMPORTS	1	1.00	0.0	36.66	0.0	-2.0	0.0	-0.73	0.00	-3.0	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	0.52	0.4	11.51	13.2	4.1	47.7	-0.23	.50	-0.6	1.2
*VEHICLE TYPE											
AUTOMOBILE	15	0.52	0.4	11.51	13.2	4.1	47.7	-0.23	.50	-0.6	1.2
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	0.52	0.4	11.51	13.2	4.1	47.7	-0.23	.50	-0.6	1.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	0.41	0.5	2.67	1.4	50.6	49.1	-0.11	.83	-1.3	0.9
CNV/NO A.PMP	10	0.52	0.4	12.54	12.8	-13.8	37.5	-0.23	.36	-0.1	0.9
A.PMP/NO CNV	1	1.00	0.0	36.66	0.0	-2.0	0.0	-0.73	0.00	-3.0	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	0.55	0.6	20.46	22.9	12.7	20.9	-0.73	.00	-2.3	1.0
151 - 250	0										
251 - 350	11	0.50	0.4	11.80	12.3	3.5	55.2	-0.24	.50	-0.4	1.1
MORE THAN 350	2	0.58	0.8	1.00	2.5	-1.1	25.4	0.28	.28	0.0	0.6
*INERTIA WEIGHT											
1800 - 2799	1	0.11	0.0	4.25	0.0	27.5	0.0	-0.73	0.00	-1.6	0.0
2800 - 3799	2	0.51	0.7	18.71	25.4	16.2	25.8	-0.82	.13	-1.9	1.6
3800 - 4799	11	0.60	0.4	11.99	12.1	1.9	54.5	-0.11	.48	-0.4	1.1
4800 - 5799	1	0.05	0.0	-0.80	0.0	-19.1	0.0	0.08	0.00	0.4	0.0
ALL VEHICLES	15	0.52	0.4	11.51	13.2	4.1	47.7	-0.23	.50	-0.6	1.2

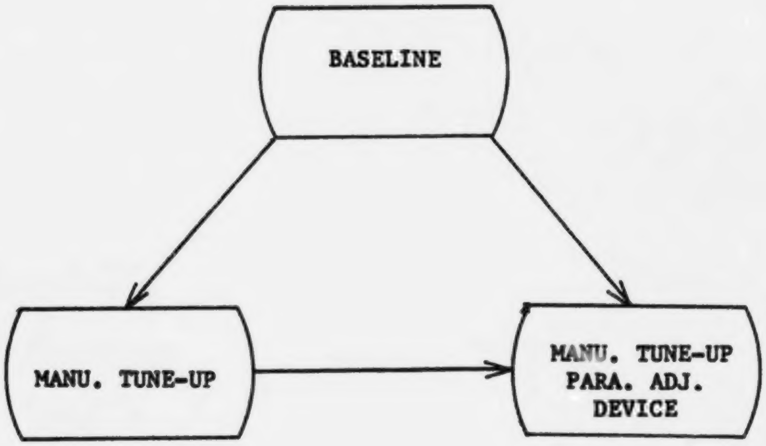
PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(TUNE-UP/PARA ADJ--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	18.4	0.0	10.5	0.0	17.5	0.0	20.3	0.0	-20.5	0.0
FORD MOTOR CO.	1	2.5	0.0	18.3	0.0	5.5	0.0	-29.6	0.0	-6.0	0.0
GENERAL MOTORS	12	35.8	25.5	32.9	25.6	-1.5	6.3	-25.9	37.0	-1.9	6.6
IMPORTS	1	49.0	0.0	63.2	0.0	-0.6	0.0	-59.3	0.0	-15.3	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	33.3	24.9	32.4	25.2	0.3	7.6	-25.3	36.2	-4.3	8.1
*VEHICLE TYPE											
AUTOMOBILE	15	33.3	24.9	32.4	25.2	0.3	7.6	-25.3	36.2	-4.3	8.1
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	33.3	24.9	32.4	25.2	0.3	7.6	-25.3	36.2	-4.3	8.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	27.0	35.6	30.3	21.2	7.9	6.6	-18.0	47.4	-9.6	7.6
CNV/NO A.PMP	10	34.3	22.3	30.2	26.9	-2.6	6.3	-24.8	33.8	-1.2	6.9
A.PMP/NO CNV	1	49.0	0.0	63.2	0.0	-0.6	0.0	-59.3	0.0	-15.3	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	28.4	29.1	48.6	20.7	2.9	5.0	-69.8	14.8	-11.8	4.9
151 - 250	0										
251 - 350	11	32.5	22.1	30.5	24.2	-0.0	8.6	-23.8	33.8	-3.7	8.6
MORE THAN 350	2	42.6	52.1	27.1	44.3	-0.4	3.8	10.9	9.2	-0.2	4.6
*INERTIA WEIGHT											
1800 - 2799	1	7.8	0.0	33.9	0.0	6.4	0.0	-80.2	0.0	-8.3	0.0
2800 - 3799	2	25.7	32.9	40.8	31.7	2.4	4.3	-44.5	21.0	-10.6	6.6
3800 - 4799	11	39.5	23.7	34.1	25.2	-0.3	8.5	-19.5	35.9	-3.5	8.5
4800 - 5799	1	5.7	0.0	-4.3	0.0	-3.2	0.0	4.4	0.0	3.1	0.0
ALL VEHICLES	15	33.3	24.9	32.4	25.2	0.3	7.6	-25.3	36.2	-4.3	8.1

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

1975 VEHICLES

DATA SET 4
20 VEHICLES


BASELINE
MANU. TUNE-UP
MANU. TUNE-UP
PARA. ADJ.
DEVICE

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	2.23	0.0	70.26	0.0	402.7	0.0	1.82	0.00	17.1	0.0
CHRYSLER	1	2.04	0.0	31.86	0.0	644.9	0.0	3.04	0.00	12.6	0.0
FORD MOTOR CO.	1	0.80	0.0	7.46	0.0	681.5	0.0	0.83	0.00	12.8	0.0
GENERAL MOTORS	15	1.81	0.7	49.00	29.1	596.1	85.6	1.28	.43	13.3	2.0
IMPORTS	2	1.02	0.6	22.24	19.4	341.2	15.6	1.60	.29	23.4	1.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	20	1.71	0.7	44.45	28.8	567.6	117.8	1.40	.57	14.5	3.6
*VEHICLE TYPE											
AUTOMOBILE	18	1.70	0.7	46.44	29.2	564.4	123.3	1.37	.59	14.5	3.8
TRUCK	2	1.81	0.8	26.55	22.9	596.4	60.5	1.68	.10	13.8	0.5
*VEHICLE OWNER											
GSA	1	2.35	0.0	42.76	0.0	553.6	0.0	1.61	0.00	14.1	0.0
PRIVATE OWNER	19	1.68	0.7	44.54	29.6	568.4	121.0	1.39	.58	14.5	3.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	1.15	0.6	13.23	10.8	648.2	82.1	1.73	1.02	13.4	1.8
CNV/NO A.PMP	12	2.02	0.6	59.01	23.0	585.6	80.1	1.20	.22	13.2	2.1
A.PMP/NO CNV	2	1.02	0.6	22.24	19.4	341.2	15.6	1.60	.29	23.4	1.0
NO CNV/NO APMP	1	2.23	0.0	70.26	0.0	402.7	0.0	1.82	0.00	17.1	0.0
*DISPLACEMENT											
LESS THAN 151	3	0.86	0.5	18.85	14.9	402.3	106.5	1.28	.60	21.0	4.2
151 - 250	2	2.44	0.1	47.27	6.4	468.8	119.9	1.34	.37	16.4	3.3
251 - 350	13	1.88	0.6	52.76	29.9	597.4	73.5	1.38	.59	13.1	1.5
MORE THAN 350	2	1.19	0.1	25.99	30.6	720.9	41.9	1.84	.81	11.6	0.1
*INERTIA WEIGHT											
1800 - 2799	1	0.53	0.0	12.07	0.0	524.6	0.0	0.63	0.00	16.3	0.0
2800 - 3799	5	1.52	0.9	34.80	27.3	430.1	143.3	1.39	.44	19.1	4.5
3800 - 4799	13	1.91	0.6	50.41	29.9	614.3	58.9	1.48	.62	12.8	1.1
4800 - 5799	1	1.29	0.0	47.60	0.0	691.3	0.0	1.26	0.00	11.5	0.0
ALL VEHICLES	20	1.71	0.7	44.45	28.8	567.6	117.8	1.40	.57	14.5	3.6

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	1.99	0.0	53.88	0.0	397.3	0.0	1.28	0.00	18.2	0.0
CHRYSLER	1	1.49	0.0	31.46	0.0	769.1	0.0	2.67	0.00	10.8	0.0
FORD MOTOR CO.	1	0.84	0.0	7.31	0.0	681.1	0.0	2.34	0.00	12.8	0.0
GENERAL MOTORS	15	1.60	0.5	39.99	21.1	605.8	92.4	1.20	.44	13.4	2.1
IMPORTS	2	1.13	0.9	29.99	33.4	341.1	1.0	1.46	.01	22.9	3.2
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	20	1.53	0.5	37.62	21.5	580.8	130.4	1.36	.55	14.5	3.7
*VEHICLE TYPE											
AUTOMOBILE	18	1.55	0.6	39.98	21.3	580.2	136.3	1.32	.55	14.4	3.9
TRUCK	2	1.32	0.3	16.39	5.4	586.7	84.2	1.72	.57	14.5	1.8
*VEHICLE OWNER											
GSA	1	1.54	0.0	20.19	0.0	527.2	0.0	2.13	0.00	15.7	0.0
PRIVATE OWNER	19	1.53	0.5	38.54	21.7	583.6	133.3	1.32	.54	14.4	3.8
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	1.32	0.4	14.40	10.7	668.2	95.0	1.79	.81	13.0	2.0
CNV/NO A.PMP	12	1.64	0.5	47.22	16.5	599.6	93.4	1.17	.40	13.3	2.2
A.PMP/NO CNV	2	1.13	0.9	29.99	33.4	341.1	1.0	1.46	.01	22.9	3.2
NO CNV/NO APMP	1	1.99	0.0	53.88	0.0	397.3	0.0	1.28	0.00	18.2	0.0
*DISPLACEMENT											
LESS THAN 151	3	1.23	0.7	25.53	24.8	400.6	103.0	1.19	.47	20.6	4.5
151 - 250	2	2.16	0.9	37.57	24.6	447.2	113.1	1.60	.74	17.5	2.4
251 - 350	13	1.50	0.5	43.26	20.3	624.9	92.1	1.29	.58	12.9	1.8
MORE THAN 350	2	1.49	0.4	19.17	21.5	697.8	38.3	1.82	.21	12.1	0.1
*INERTIA WEIGHT											
1800 - 2799	1	1.41	0.0	16.63	0.0	519.6	0.0	0.65	0.00	16.1	0.0
2800 - 3799	5	1.58	0.9	35.22	25.9	425.6	144.7	1.52	.48	19.2	4.5
3800 - 4799	13	1.54	0.4	40.42	21.4	638.3	73.1	1.32	.59	12.7	1.3
4800 - 5799	1	1.23	0.0	34.34	0.0	670.7	0.0	1.67	0.00	12.2	0.0
ALL VEHICLES	20	1.53	0.5	37.62	21.5	580.8	130.4	1.36	.55	14.5	3.7

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	1.99	0.0	53.88	0.0	397.3	0.0	1.28	0.00	18.2	0.0
CHRYSLER	1	1.49	0.0	31.46	0.0	769.1	0.0	2.67	0.00	10.8	0.0
FORD MOTOR CO.	1	0.84	0.0	7.31	0.0	681.1	0.0	2.34	0.00	12.8	0.0
GENERAL MOTORS	15	1.60	0.5	39.99	21.1	605.8	92.4	1.20	.44	13.4	2.1
IMPORTS	2	1.13	0.9	29.99	33.4	341.1	1.0	1.46	.01	22.9	3.2
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	20	1.53	0.5	37.62	21.5	580.8	130.4	1.36	.55	14.5	3.7
*VEHICLE TYPE											
AUTOMOBILE	18	1.55	0.6	39.98	21.3	580.2	136.3	1.32	.55	14.4	3.9
TRUCK	2	1.32	0.3	16.39	5.4	586.7	84.2	1.72	.57	14.5	1.8
*VEHICLE OWNER											
GSA	1	1.54	0.0	20.19	0.0	527.2	0.0	2.13	0.00	15.7	0.0
PRIVATE OWNER	19	1.53	0.5	38.54	21.7	583.6	133.3	1.32	.54	14.4	3.8
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	1.32	0.4	14.40	10.7	668.2	95.0	1.79	.81	13.0	2.0
CNV/NO A.PMP	12	1.64	0.5	47.22	16.5	599.6	93.4	1.17	.40	13.3	2.2
A.PMP/NO CNV	2	1.13	0.9	29.99	33.4	341.1	1.0	1.46	.01	22.9	3.2
NO CNV/NO APMP	1	1.99	0.0	53.88	0.0	397.3	0.0	1.28	0.00	18.2	0.0
*DISPLACEMENT											
LESS THAN 151	3	1.23	0.7	25.53	24.8	406.6	103.0	1.19	.47	20.6	4.5
151 - 250	2	2.16	0.9	37.57	24.6	447.2	113.1	1.60	.74	17.5	2.4
251 - 350	13	1.50	0.5	43.26	20.3	624.9	92.1	1.29	.58	12.9	1.8
MORE THAN 350	2	1.49	0.4	19.17	21.5	697.8	38.3	1.82	.21	12.1	0.1
*INERTIA WEIGHT											
1800 - 2799	1	1.41	0.0	16.63	0.0	519.6	0.0	0.65	0.00	16.1	0.0
2800 - 3799	5	1.58	0.9	35.22	25.9	425.6	144.7	1.52	.48	19.2	4.5
3800 - 4799	13	1.54	0.4	40.42	21.4	638.3	73.1	1.32	.59	12.7	1.3
4800 - 5799	1	1.23	0.0	34.34	0.0	670.7	0.0	1.67	0.00	12.2	0.0
ALL VEHICLES	20	1.53	0.5	37.62	21.5	580.8	130.4	1.36	.55	14.5	3.7

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	0.24	0.0	16.38	0.0	5.4	0.0	0.54	0.00	-1.1	0.0
CHRYSLER	1	0.55	0.0	0.40	0.0	-124.2	0.0	0.37	0.00	1.9	0.0
FORD MOTOR CO.	1	-0.04	0.0	0.15	0.0	0.4	0.0	-1.51	0.00	-0.0	0.0
GENERAL MOTORS	15	0.21	0.5	9.00	20.1	-9.7	31.6	0.08	.30	-0.1	0.7
IMPORTS	2	-0.12	0.3	-7.74	13.9	0.1	14.5	0.14	.28	0.5	2.1
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	20	0.18	0.5	6.83	18.5	-13.2	38.1	0.05	.47	0.0	0.9
*VEHICLE TYPE											
AUTOMOBILE	18	0.15	0.5	6.45	19.1	-15.7	39.0	0.06	.46	0.1	0.9
TRUCK	2	0.49	0.5	10.16	17.5	9.7	23.7	-0.05	.67	-0.7	1.3
*VEHICLE OWNER											
GSA	1	0.81	0.0	22.57	0.0	26.4	0.0	-0.52	0.00	-1.6	0.0
PRIVATE OWNER	19	0.15	0.5	6.00	18.7	-15.3	38.0	0.08	.46	0.1	0.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	-0.17	0.6	-1.17	2.2	-20.0	59.5	-0.06	.83	0.4	0.9
CNV/NO A.PMP	12	0.38	0.4	11.79	21.7	-14.1	33.4	0.03	.30	-0.1	0.8
A.PMP/NO CNV	2	-0.12	0.3	-7.74	13.9	0.1	14.5	0.14	.28	0.5	2.1
NO CNV/NO APMP	1	0.24	0.0	16.38	0.0	5.4	0.0	0.54	0.00	-1.1	0.0
*DISPLACEMENT											
LESS THAN 151	3	-0.37	0.5	-6.68	10.0	1.7	10.6	0.09	.22	0.4	1.5
151 - 250	2	0.29	0.7	9.69	18.2	21.6	6.9	-0.26	.37	-1.0	0.8
251 - 350	13	0.37	0.3	9.50	20.9	-27.5	39.7	0.09	.53	0.2	0.8
MORE THAN 350	2	-0.30	0.5	6.83	9.1	23.2	3.6	0.01	.60	-0.5	0.2
*INERTIA WEIGHT											
1800 - 2799	1	-0.88	0.0	-4.56	0.0	5.0	0.0	-0.02	0.00	0.1	0.0
2800 - 3799	5	-0.05	0.2	-0.43	12.2	4.5	10.2	-0.14	.81	-0.1	1.3
3800 - 4799	13	0.37	0.4	10.00	21.2	-24.0	43.4	0.16	.29	0.1	0.9
4800 - 5799	1	0.06	0.0	13.26	0.0	20.6	0.0	-0.41	0.00	-0.7	0.0
ALL VEHICLES	20	0.18	0.5	6.83	18.5	-13.2	38.1	0.05	.47	0.0	0.9

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	10.8	0.0	23.3	0.0	1.3	0.0	29.7	0.0	-6.6	0.0
CHRYSLER	1	27.0	0.0	1.3	0.0	-19.3	0.0	12.2	0.0	14.8	0.0
FORD MOTOR CO.	1	-5.0	0.0	2.0	0.0	0.1	0.0	-181.9	0.0	-0.1	0.0
GENERAL MOTORS	15	-0.7	52.1	9.8	26.9	-1.6	5.3	5.1	21.4	-0.9	5.4
IMPORTS	2	-2.2	31.3	-12.1	52.0	-0.1	4.3	7.6	15.8	2.5	9.2
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	20	0.9	45.8	7.5	27.1	-2.1	6.2	-2.4	46.6	-0.0	6.4
***VEHICLE TYPE**											
AUTOMOBILE	18	-1.7	47.5	6.6	25.5	-2.5	6.4	-2.2	48.2	0.5	6.1
TRUCK	2	23.9	15.0	15.6	52.6	1.8	4.2	-3.9	40.2	-5.0	9.1
***VEHICLE OWNER**											
GSA	1	34.5	0.0	52.8	0.0	4.8	0.0	-32.3	0.0	-11.4	0.0
PRIVATE OWNER	19	-0.9	46.3	5.1	25.6	-2.4	6.2	-0.8	47.3	0.6	5.9
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	5	-38.3	78.8	-9.5	19.6	-3.2	9.1	-26.0	87.8	2.8	7.0
CNV/NO A.PMP	12	16.8	16.9	16.5	24.0	-2.2	5.7	3.1	22.9	-1.0	5.9
A.PMP/NO CNV	2	-2.2	31.3	-12.1	52.0	-0.1	4.3	7.6	15.8	2.5	9.2
NO CNV/NO APMP	1	10.8	0.0	23.3	0.0	1.3	0.0	29.7	0.0	-6.6	0.0
***DISPLACEMENT**											
LESS THAN 151	3	-56.8	97.2	-20.6	39.7	0.3	3.1	4.0	12.8	2.0	6.6
151 - 250	2	12.5	31.1	23.3	41.7	4.6	0.3	-16.1	22.8	-6.9	6.4
251 - 350	13	16.8	14.8	9.8	21.9	-4.4	6.4	-1.0	56.6	1.3	6.3
MORE THAN 350	2	-27.9	46.1	18.4	13.4	3.2	0.3	-7.1	35.9	-4.5	1.7
***INERTIA WEIGHT**											
1800 - 2799	1	-166.0	0.0	-37.8	0.0	1.0	0.0	-3.2	0.0	0.9	0.0
2800 - 3799	5	-1.6	17.4	-1.0	29.9	1.1	2.9	-27.4	87.4	-0.8	6.0
3800 - 4799	13	14.3	26.3	12.6	24.6	-3.9	6.9	9.6	19.8	0.7	7.0
4800 - 5799	1	4.7	0.0	27.9	0.0	3.0	0.0	-32.5	0.0	-5.7	0.0
ALL VEHICLES	20	0.9	45.8	7.5	27.1	-2.1	6.2	-2.4	46.6	-0.0	6.4

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	1.32	0.0	9.26	0.0	442.7	0.0	3.75	0.00	19.2	0.0
CHRYSLER	1	1.69	0.0	24.69	0.0	583.4	0.0	2.82	0.00	14.1	0.0
FORD MOTOR CO.	1	0.79	0.0	3.39	0.0	596.1	0.0	3.98	0.00	14.7	0.0
GENERAL MOTORS	15	1.06	0.5	21.67	13.8	586.5	95.4	1.87	.69	14.6	2.6
IMPORTS	2	0.78	0.4	12.34	12.7	337.5	15.4	1.98	.03	24.8	2.5
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	20	1.06	0.5	19.36	13.3	554.8	115.2	2.13	.87	15.8	4.0
*VEHICLE TYPE											
AUTOMOBILE	18	1.05	0.5	20.29	13.8	555.9	119.7	2.03	.76	15.8	4.2
TRUCK	2	1.22	0.1	10.99	1.6	544.4	91.5	3.06	1.58	15.9	2.5
*VEHICLE OWNER											
GSA	1	1.17	0.0	12.11	0.0	479.7	0.0	4.18	0.00	17.7	0.0
PRIVATE OWNER	19	1.06	0.5	19.74	13.6	558.7	117.0	2.02	.74	15.7	4.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	1.07	0.5	9.64	9.0	582.7	117.3	2.52	.92	15.3	3.5
CNV/NO A.PMP	12	1.09	0.6	25.41	12.7	588.7	81.1	1.86	.77	14.3	2.0
A.PMP/NO CNV	2	0.78	0.4	12.34	12.7	337.5	15.4	1.98	.03	24.8	2.5
NO CNV/NO APMP	1	1.32	0.0	9.26	0.0	442.7	0.0	3.75	0.00	19.2	0.0
*DISPLACEMENT											
LESS THAN 151	3	0.95	0.4	10.99	9.3	358.1	37.2	1.87	.20	23.7	2.7
151 - 250	2	1.80	0.9	26.74	20.7	439.6	56.6	2.93	1.77	18.2	0.8
251 - 350	13	1.05	0.4	21.47	13.2	599.4	60.4	2.09	.88	14.1	1.8
MORE THAN 350	2	0.56	0.4	10.78	12.4	674.6	72.4	1.98	.35	12.8	1.0
*INERTIA WEIGHT											
1800 - 2799	1	1.30	0.0	8.28	0.0	399.1	0.0	1.64	0.00	21.3	0.0
2800 - 3799	5	1.22	0.7	15.74	16.1	422.7	106.9	2.67	1.10	20.5	4.5
3800 - 4799	13	1.00	0.5	21.58	13.2	612.3	62.8	1.99	.78	13.8	1.5
4800 - 5799	1	0.83	0.0	19.58	0.0	623.4	0.0	1.74	0.00	13.5	0.0
ALL VEHICLES	20	1.06	0.5	19.36	13.3	554.8	115.2	2.13	.87	15.8	4.0

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	0.91	0.0	61.00	0.0	-40.0	0.0	-1.93	0.00	-2.2	0.0
CHRYSLER	1	0.35	0.0	7.17	0.0	61.5	0.0	0.22	0.00	-1.5	0.0
FORD MOTOR CO.	1	0.01	0.0	4.07	0.0	85.4	0.0	-3.15	0.00	-1.9	0.0
GENERAL MOTORS	15	0.75	0.7	27.32	23.8	9.5	55.2	-0.60	.63	-1.3	1.5
IMPORTS	2	0.24	0.2	9.90	6.7	3.7	30.9	-0.38	.32	-1.4	1.5
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	20	0.65	0.6	25.09	23.6	12.9	53.5	-0.73	.87	-1.4	1.3
*VEHICLE TYPE											
AUTOMOBILE	18	0.65	0.7	26.15	24.1	8.5	54.3	-0.65	.79	-1.3	1.3
TRUCK	2	0.60	0.8	15.56	21.3	52.0	31.0	-1.38	1.68	-2.1	2.0
*VEHICLE OWNER											
GSA	1	1.18	0.0	30.65	0.0	73.9	0.0	-2.57	0.00	-3.5	0.0
PRIVATE OWNER	19	0.62	0.7	24.80	24.2	9.7	53.0	-0.63	.78	-1.2	1.3
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	0.08	0.6	3.58	2.5	65.5	41.6	-0.79	1.41	-1.9	1.8
CNV/NO A.PMP	12	0.93	0.6	33.60	22.5	-3.1	49.3	-0.66	.65	-1.1	1.1
A.PMP/NO CNV	2	0.24	0.2	9.90	6.7	3.7	30.9	-0.38	.32	-1.4	1.5
NO CNV/NO APMP	1	0.91	0.0	61.00	0.0	-40.0	0.0	-1.93	0.00	-2.2	0.0
*DISPLACEMENT											
LESS THAN 151	3	-0.10	0.6	7.86	5.9	44.3	73.7	-0.59	.43	-2.6	2.3
151 - 250	2	0.65	0.7	20.53	14.3	29.2	63.3	-1.58	1.40	-1.8	2.5
251 - 350	13	0.82	0.6	31.29	26.3	-2.0	50.0	-0.72	.90	-1.0	0.8
MORE THAN 350	2	0.63	0.2	15.21	18.1	46.4	30.5	-0.15	.47	-1.2	1.1
*INERTIA WEIGHT											
1800 - 2799	1	-0.77	0.0	3.79	0.0	125.5	0.0	-1.01	0.00	-5.1	0.0
2800 - 3799	5	0.30	0.4	19.06	23.8	7.4	49.6	-1.28	1.24	-1.4	1.1
3800 - 4799	13	0.91	0.6	28.83	24.9	2.1	47.6	-0.51	.70	-1.0	1.0
4800 - 5799	1	0.46	0.0	28.02	0.0	67.9	0.0	-0.48	0.00	-2.0	0.0
ALL VEHICLES	20	0.65	0.6	25.09	23.6	12.9	53.5	-0.73	.87	-1.4	1.3

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	40.8	0.0	86.8	0.0	-9.9	0.0	-106.0	0.0	-12.7	0.0
CHRYSLER	1	17.2	0.0	22.5	0.0	9.5	0.0	7.2	0.0	-11.8	0.0
FORD MOTOR CO.	1	1.2	0.0	54.6	0.0	12.5	0.0	-379.5	0.0	-15.2	0.0
GENERAL MOTORS	15	30.8	54.5	49.9	23.3	1.4	9.9	-54.0	51.5	-9.5	9.9
IMPORTS	2	20.6	10.2	50.6	14.1	0.9	9.0	-25.6	24.4	-5.9	6.1
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	20	28.1	47.5	50.7	22.8	1.8	9.6	-67.0	88.4	-9.7	8.8
*VEHICLE TYPE											
AUTOMOBILE	18	28.3	49.5	52.1	20.7	1.0	9.7	-65.0	89.6	-9.1	8.5
TRUCK	2	25.9	34.4	38.2	47.4	9.0	6.1	-85.2	105.2	-15.0	14.2
*VEHICLE OWNER											
GSA	1	50.2	0.0	71.7	0.0	13.3	0.0	-159.6	0.0	-25.1	0.0
PRIVATE OWNER	19	26.9	48.5	49.6	22.9	1.2	9.5	-62.1	88.0	-8.9	8.3
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	-10.4	81.0	33.6	21.5	10.8	8.2	-107.2	167.7	-13.4	10.9
CNV/NO A.PMP	12	44.3	22.8	54.8	21.1	-0.8	8.4	-53.9	42.8	-8.5	8.8
A.PMP/NO CNV	2	20.6	10.2	50.6	14.1	0.9	9.0	-25.6	24.4	-5.9	6.1
NO CNV/NO APMP	1	40.8	0.0	86.8	0.0	-9.9	0.0	-106.0	0.0	-12.7	0.0
*DISPLACEMENT											
LESS THAN 151	3	-34.7	96.0	44.2	14.9	8.6	14.8	-70.5	79.7	-14.3	15.1
151 - 250	2	27.5	32.2	45.9	36.5	4.6	12.3	-107.1	74.2	-12.6	17.6
251 - 350	13	38.6	25.9	52.0	25.6	-1.0	8.4	-68.0	100.2	-8.0	6.5
MORE THAN 350	2	54.5	26.7	56.8	3.0	6.6	4.6	-15.3	32.2	-10.8	9.2
*INERTIA WEIGHT											
1800 - 2799	1	-145.3	0.0	31.4	0.0	23.9	0.0	-160.3	0.0	-31.0	0.0
2800 - 3799	5	17.6	16.5	52.6	24.7	0.1	9.4	-118.3	150.2	-8.0	6.7
3800 - 4799	13	44.9	24.9	50.8	24.2	0.1	8.2	-42.3	47.9	-8.1	7.9
4800 - 5799	1	35.7	0.0	58.9	0.0	9.8	0.0	-38.1	0.0	-17.3	0.0
ALL VEHICLES	20	28.1	47.5	50.7	22.8	1.8	9.6	-67.0	88.4	-9.7	8.8

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(MANU. TUNE-UP---TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	1.32	0.0	9.26	0.0	442.7	0.0	3.75	0.00	19.2	0.0
CHRYSLER	1	1.69	0.0	24.69	0.0	583.4	0.0	2.82	0.00	14.1	0.0
FORD MOTOR CO.	1	0.79	0.0	3.39	0.0	596.1	0.0	3.98	0.00	14.7	0.0
GENERAL MOTORS	15	1.06	0.5	21.67	13.8	586.5	95.4	1.87	.69	14.6	2.6
IMPORTS	2	0.78	0.4	12.34	12.7	337.5	15.4	1.98	.03	24.8	2.5
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	20	1.06	0.5	19.36	13.3	554.8	115.2	2.13	.87	15.8	4.0
*VEHICLE TYPE											
AUTOMOBILE	18	1.05	0.5	20.29	13.8	555.9	119.7	2.03	.76	15.8	4.2
TRUCK	2	1.22	0.1	10.99	1.6	544.4	91.5	3.06	1.58	15.9	2.5
*VEHICLE OWNER											
GSA	1	1.17	0.0	12.11	0.0	479.7	0.0	4.18	0.00	17.7	0.0
PRIVATE OWNER	19	1.06	0.5	19.74	13.6	558.7	117.0	2.02	.74	15.7	4.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	1.07	0.5	9.64	9.0	582.7	117.3	2.52	.92	15.3	3.5
CNV/NO A.PMP	12	1.09	0.6	25.41	12.7	588.7	81.1	1.86	.77	14.3	2.0
A.PMP/NO CNV	2	0.78	0.4	12.34	12.7	337.5	15.4	1.98	.03	24.8	2.5
NO CNV/NO APMP	1	1.32	0.0	9.26	0.0	442.7	0.0	3.75	0.00	19.2	0.0
*DISPLACEMENT											
LESS THAN 151	3	0.95	0.4	10.99	9.3	358.1	37.2	1.87	.20	23.7	2.7
151 - 250	2	1.80	0.9	26.74	20.7	439.6	56.6	2.93	1.77	18.2	0.8
251 - 350	13	1.05	0.4	21.47	13.2	599.4	60.4	2.09	.88	14.1	1.8
MORE THAN 350	2	0.56	0.4	10.78	12.4	674.6	72.4	1.98	.35	12.8	1.0
*INERTIA WEIGHT											
1800 - 2799	1	1.30	0.0	8.28	0.0	399.1	0.0	1.64	0.00	21.3	0.0
2800 - 3799	5	1.22	0.7	15.74	16.1	422.7	106.9	2.67	1.10	20.5	4.5
3800 - 4799	13	1.00	0.5	21.58	13.2	612.3	62.8	1.99	.78	13.8	1.5
4800 - 5799	1	0.83	0.0	19.58	0.0	623.4	0.0	1.74	0.00	13.5	0.0
ALL VEHICLES	20	1.06	0.5	19.36	13.3	554.8	115.2	2.13	.87	15.8	4.0

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(MANU. TUNE-UP---TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	0.67	0.0	44.62	0.0	-45.4	0.0	-2.47	0.00	-1.1	0.0
CHRYSLER	1	-0.20	0.0	6.77	0.0	185.7	0.0	-0.15	0.00	-3.4	0.0
FORD MOTOR CO.	1	0.05	0.0	3.92	0.0	85.0	0.0	-1.64	0.00	-1.9	0.0
GENERAL MOTORS	15	0.54	0.5	18.32	13.9	19.2	45.8	-0.68	.49	-1.2	1.4
IMPORTS	2	0.36	0.6	17.64	20.6	3.6	16.4	-0.52	.04	-2.0	0.6
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	20	0.46	0.5	18.27	14.8	26.1	58.7	-0.77	.63	-1.4	1.3
*VEHICLE TYPE											
AUTOMOBILE	18	0.50	0.5	19.70	14.9	24.2	61.7	-0.71	.59	-1.4	1.4
TRUCK	2	0.11	0.4	5.40	3.8	42.3	7.3	-1.34	1.01	-1.4	0.8
*VEHICLE OWNER											
GSA	1	0.37	0.0	8.08	0.0	47.5	0.0	-2.05	0.00	-1.9	0.0
PRIVATE OWNER	19	0.47	0.5	18.80	15.0	24.9	60.1	-0.71	.57	-1.3	1.3
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	0.25	0.7	4.75	2.7	85.5	72.6	-0.73	.61	-2.3	2.0
CNV/NO A.PMP	12	0.55	0.5	21.81	13.3	11.0	40.0	-0.69	.52	-0.9	0.8
A.PMP/NO CNV	2	0.36	0.6	17.64	20.6	3.6	16.4	-0.52	.04	-2.0	0.6
NO CNV/NO APMP	1	0.67	0.0	44.62	0.0	-45.4	0.0	-2.47	0.00	-1.1	0.0
*DISPLACEMENT											
LESS THAN 151	3	0.27	0.4	14.54	15.5	42.6	68.5	-0.68	.27	-3.0	1.9
151 - 250	2	0.36	0.0	10.84	3.9	7.6	56.4	-1.32	1.03	-0.8	1.6
251 - 350	13	0.45	0.5	21.79	16.0	25.5	64.7	-0.81	.64	-1.2	1.0
MORE THAN 350	2	0.93	0.7	8.38	9.0	23.2	34.1	-0.16	.13	-0.7	0.9
*INERTIA WEIGHT											
1800 - 2799	1	0.11	0.0	8.35	0.0	120.5	0.0	-0.99	0.00	-5.2	0.0
2800 - 3799	5	0.36	0.4	19.48	18.3	2.9	51.4	-1.15	.88	-1.3	1.1
3800 - 4799	13	0.54	0.6	18.83	14.9	26.1	59.7	-0.67	.51	-1.1	1.0
4800 - 5799	1	0.40	0.0	14.76	0.0	47.3	0.0	-0.07	0.00	-1.3	0.0
ALL VEHICLES	20	0.46	0.5	18.27	14.8	26.1	58.7	-0.77	.63	-1.4	1.3

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(MANU. TUNE-UP---TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	33.7	0.0	82.8	0.0	-11.4	0.0	-193.0	0.0	-5.8	0.0
CHRYSLER	1	-13.4	0.0	21.5	0.0	24.1	0.0	-5.6	0.0	-31.2	0.0
FORD MOTOR CO.	1	6.0	0.0	53.6	0.0	12.5	0.0	-70.1	0.0	-15.1	0.0
GENERAL MOTORS	15	31.2	28.8	44.4	17.9	3.0	8.4	-64.5	44.6	-8.6	8.8
IMPORTS	2	16.8	35.5	53.9	8.8	1.0	4.8	-35.6	3.3	-8.8	4.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	20	26.4	28.6	46.6	18.8	3.6	9.6	-65.4	51.0	-9.9	9.3
*VEHICLE TYPE											
AUTOMOBILE	18	28.7	28.5	48.3	18.8	3.2	10.1	-64.7	53.2	-10.0	9.7
TRUCK	2	5.3	26.5	30.8	13.0	7.4	2.3	-71.6	34.8	-9.4	4.1
*VEHICLE OWNER											
GSA	1	24.0	0.0	40.0	0.0	9.0	0.0	-96.2	0.0	-12.3	0.0
PRIVATE OWNER	19	26.5	29.3	46.9	19.3	3.3	9.8	-63.7	51.9	-9.8	9.5
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	14.0	40.1	39.4	16.4	13.1	10.6	-57.6	59.0	-17.2	14.2
CNV/NO A.PMP	12	32.5	24.0	45.3	18.8	1.3	7.0	-62.9	39.5	-7.4	6.4
A.PMP/NO CNV	2	16.8	35.5	53.9	8.8	1.0	4.8	-35.6	3.3	-8.8	4.0
NO CNV/NO APMP	1	33.7	0.0	82.8	0.0	-11.4	0.0	-193.0	0.0	-5.8	0.0
*DISPLACEMENT											
LESS THAN 151	3	13.8	25.6	52.7	6.6	8.4	13.2	-74.5	67.4	-16.6	13.8
151 - 250	2	18.5	7.8	32.4	10.8	0.1	12.6	-75.4	29.4	-5.1	10.1
251 - 350	13	25.6	29.2	47.3	22.3	3.0	9.7	-70.4	51.9	-9.7	8.6
MORE THAN 350	2	58.0	36.0	46.6	5.1	3.5	5.1	-8.7	6.4	-5.9	7.1
*INERTIA WEIGHT											
1800 - 2799	1	7.8	0.0	50.2	0.0	23.2	0.0	-152.3	0.0	-32.2	0.0
2800 - 3799	5	17.2	20.5	53.8	21.0	-1.1	9.8	-77.8	66.0	-7.3	6.6
3800 - 4799	13	30.9	32.6	43.8	19.6	3.6	8.5	-58.6	40.2	-9.1	8.8
4800 - 5799	1	32.5	0.0	43.0	0.0	7.1	0.0	-4.2	0.0	-10.9	0.0
ALL VEHICLES	20	26.4	28.6	46.6	18.8	3.6	9.6	-65.4	51.0	-9.9	9.3

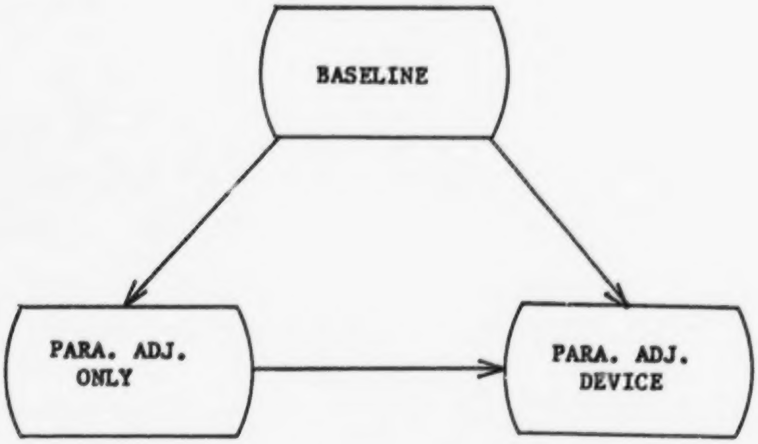
APPENDIX H

TABLES OF TEST RESULTS

DATA SET 1 PAGE H-2
DATA SET 2 PAGE H-14
DATA SET 3 PAGE H-26
DATA SET 4 PAGE H-48

1975 VEHICLES

DATA SET 1
2 VEHICLES


BASELINE
PARA. ADJ. ONLY
PARA. ADJ. DEVICE

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	0										
CHRYSLER	1	3.30	0.0	70.15	0.0	452.8	0.0	3.54	0.00	15.5	0.0
FORD MOTOR CO.	0										
GENERAL MOTORS	1	1.76	0.0	34.81	0.0	537.7	0.0	1.00	0.00	14.8	0.0
IMPORTS	0										
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	2	2.53	1.1	52.48	25.0	495.2	60.0	2.27	1.80	15.2	0.5
***VEHICLE TYPE**											
AUTOMOBILE	0										
TRUCK	2	2.53	1.1	52.48	25.0	495.2	60.0	2.27	1.80	15.2	0.5
***VEHICLE OWNER**											
GSA	2	2.53	1.1	52.48	25.0	495.2	60.0	2.27	1.80	15.2	0.5
PRIVATE OWNER	0										
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	0										
CNV/NO A.PMP	1	1.76	0.0	34.81	0.0	537.7	0.0	1.00	0.00	14.8	0.0
A.PMP/NO CNV	0										
NO CNV/NO APMP	1	3.30	0.0	70.15	0.0	452.8	0.0	3.54	0.00	15.5	0.0
***DISPLACEMENT**											
LESS THAN 151	0										
151 - 250	2	2.53	1.1	52.48	25.0	495.2	60.0	2.27	1.80	15.2	0.5
251 - 350	0										
MORE THAN 350	0										
***INERTIA WEIGHT**											
1800 - 2799	0										
2800 - 3799	0										
3800 - 4799	2	2.53	1.1	52.48	25.0	495.2	60.0	2.27	1.80	15.2	0.5
4800 - 5799	0										
ALL VEHICLES	2	2.53	1.1	52.48	25.0	495.2	60.0	2.27	1.80	15.2	0.5

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(PARAMETRIC ADJ.)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	3.85	0.0	52.78	0.0	470.3	0.0	5.21	0.00	15.7	0.0
FORD MOTOR CO.	0										
GENERAL MOTORS	1	3.69	0.0	16.74	0.0	556.3	0.0	2.43	0.00	14.9	0.0
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	2	3.77	0.1	34.76	25.5	513.3	60.8	3.82	1.97	15.3	0.5
*VEHICLE TYPE											
AUTOMOBILE	0										
TRUCK	2	3.77	0.1	34.76	25.5	513.3	60.8	3.82	1.97	15.3	0.5
*VEHICLE OWNER											
GSA	2	3.77	0.1	34.76	25.5	513.3	60.8	3.82	1.97	15.3	0.5
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	1	3.69	0.0	16.74	0.0	556.3	0.0	2.43	0.00	14.9	0.0
A.PMP/NO CNV	0										
NO CNV/NO APMP	1	3.85	0.0	52.78	0.0	470.3	0.0	5.21	0.00	15.7	0.0
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	2	3.77	0.1	34.76	25.5	513.3	60.8	3.82	1.97	15.3	0.5
251 - 350	0										
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	0										
3800 - 4799	2	3.77	0.1	34.76	25.5	513.3	60.8	3.82	1.97	15.3	0.5
4800 - 5799	0										
ALL VEHICLES	2	3.77	0.1	34.76	25.5	513.3	60.8	3.82	1.97	15.3	0.5

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--PARAMETRIC ADJ.)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	3.85	0.0	52.78	0.0	470.3	0.0	5.21	0.00	15.7	0.0
FORD MOTOR CO.	0										
GENERAL MOTORS	1	3.69	0.0	16.74	0.0	556.3	0.0	2.43	0.00	14.9	0.0
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	2	3.77	0.1	34.76	25.5	513.3	60.8	3.82	1.97	15.3	0.5
*VEHICLE TYPE											
AUTOMOBILE	0										
TRUCK	2	3.77	0.1	34.76	25.5	513.3	60.8	3.82	1.97	15.3	0.5
*VEHICLE OWNER											
GSA	2	3.77	0.1	34.76	25.5	513.3	60.8	3.82	1.97	15.3	0.5
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	1	3.69	0.0	16.74	0.0	556.3	0.0	2.43	0.00	14.9	0.0
A.PMP/NO CNV	0										
NO CNV/NO APMP	1	3.85	0.0	52.78	0.0	470.3	0.0	5.21	0.00	15.7	0.0
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	2	3.77	0.1	34.76	25.5	513.3	60.8	3.82	1.97	15.3	0.5
251 - 350	0										
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	0										
3800 - 4799	2	3.77	0.1	34.76	25.5	513.3	60.8	3.82	1.97	15.3	0.5
4800 - 5799	0										
ALL VEHICLES	2	3.77	0.1	34.76	25.5	513.3	60.8	3.82	1.97	15.3	0.5

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--PARAMETRIC ADJ.)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	-0.55	0.0	17.37	0.0	-17.5	0.0	-1.67	0.00	-0.2	0.0
FORD MOTOR CO.	0										
GENERAL MOTORS	1	-1.93	0.0	18.07	0.0	-18.6	0.0	-1.43	0.00	-0.1	0.0
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	2	-1.24	1.0	17.72	0.5	-18.1	0.8	-1.55	.17	-0.2	0.1
*VEHICLE TYPE											
AUTOMOBILE	0										
TRUCK	2	-1.24	1.0	17.72	0.5	-18.1	0.8	-1.55	.17	-0.2	0.1
*VEHICLE OWNER											
GSA	2	-1.24	1.0	17.72	0.5	-18.1	0.8	-1.55	.17	-0.2	0.1
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	1	-1.93	0.0	18.07	0.0	-18.6	0.0	-1.43	0.00	-0.1	0.0
A.PMP/NO CNV	0										
NO CNV/NO APMP	1	-0.55	0.0	17.37	0.0	-17.5	0.0	-1.67	0.00	-0.2	0.0
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	2	-1.24	1.0	17.72	0.5	-18.1	0.8	-1.55	.17	-0.2	0.1
251 - 350	0										
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	0										
3800 - 4799	2	-1.24	1.0	17.72	0.5	-18.1	0.8	-1.55	.17	-0.2	0.1
4800 - 5799	0										
ALL VEHICLES	2	-1.24	1.0	17.72	0.5	-18.1	0.8	-1.55	.17	-0.2	0.1

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--PARAMETRIC ADJ.)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	-16.7	0.0	24.8	0.0	-3.9	0.0	-47.2	0.0	-1.4	0.0
FORD MOTOR CO.	0										
GENERAL MOTORS	1	-109.7	0.0	51.9	0.0	-3.5	0.0	-143.0	0.0	-0.6	0.0
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	2	-63.2	65.8	38.3	19.2	-3.7	0.3	-95.1	67.8	-1.0	0.6
*VEHICLE TYPE											
AUTOMOBILE	0										
TRUCK	2	-63.2	65.8	38.3	19.2	-3.7	0.3	-95.1	67.8	-1.0	0.6
*VEHICLE OWNER											
GSA	2	-63.2	65.8	38.3	19.2	-3.7	0.3	-95.1	67.8	-1.0	0.6
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	1	-109.7	0.0	51.9	0.0	-3.5	0.0	-143.0	0.0	-0.6	0.0
A.PMP/NO CNV	0										
NO CNV/NO APMP	1	-16.7	0.0	24.8	0.0	-3.9	0.0	-47.2	0.0	-1.4	0.0
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	2	-63.2	65.8	38.3	19.2	-3.7	0.3	-95.1	67.8	-1.0	0.6
251 - 350	0										
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	0										
3800 - 4799	2	-63.2	65.8	38.3	19.2	-3.7	0.3	-95.1	67.8	-1.0	0.6
4800 - 5799	0										
ALL VEHICLES	2	-63.2	65.8	38.3	19.2	-3.7	0.3	-95.1	67.8	-1.0	0.6

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	3.52	0.0	45.44	0.0	474.4	0.0	3.90	0.00	15.9	0.0
FORD MOTOR CO.	0										
GENERAL MOTORS	1	0.92	0.0	13.95	0.0	539.4	0.0	3.02	0.00	15.7	0.0
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	2	2.22	1.8	29.69	22.3	506.9	46.0	3.46	.62	15.8	0.1
*VEHICLE TYPE											
AUTOMOBILE	0										
TRUCK	2	2.22	1.8	29.69	22.3	506.9	46.0	3.46	.62	15.8	0.1
*VEHICLE OWNER											
GSA	2	2.22	1.8	29.69	22.3	506.9	46.0	3.46	.62	15.8	0.1
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	1	0.92	0.0	13.95	0.0	539.4	0.0	3.02	0.00	15.7	0.0
A.PMP/NO CNV	0										
NO CNV/NO APMP	1	3.52	0.0	45.44	0.0	474.4	0.0	3.90	0.00	15.9	0.0
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	2	2.22	1.8	29.69	22.3	506.9	46.0	3.46	.62	15.8	0.1
251 - 350	0										
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	0										
3800 - 4799	2	2.22	1.8	29.69	22.3	506.9	46.0	3.46	.62	15.8	0.1
4800 - 5799	0										
ALL VEHICLES	2	2.22	1.8	29.69	22.3	506.9	46.0	3.46	.62	15.8	0.1

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	-0.22	0.0	24.71	0.0	-21.6	0.0	-0.36	0.00	-0.5	0.0
FORD MOTOR CO.	0										
GENERAL MOTORS	1	0.84	0.0	20.86	0.0	-1.7	0.0	-2.02	0.00	-0.9	0.0
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	2	0.31	0.7	22.78	2.7	-11.6	14.1	-1.19	1.17	-0.7	0.3
*VEHICLE TYPE											
AUTOMOBILE	0										
TRUCK	2	0.31	0.7	22.78	2.7	-11.6	14.1	-1.19	1.17	-0.7	0.3
*VEHICLE OWNER											
GSA	2	0.31	0.7	22.78	2.7	-11.6	14.1	-1.19	1.17	-0.7	0.3
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	1	0.84	0.0	20.86	0.0	-1.7	0.0	-2.02	0.00	-0.9	0.0
A.PMP/NO CNV	0										
NO CNV/NO APMP	1	-0.22	0.0	24.71	0.0	-21.6	0.0	-0.36	0.00	-0.5	0.0
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	2	0.31	0.7	22.78	2.7	-11.6	14.1	-1.19	1.17	-0.7	0.3
251 - 350	0										
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	0										
3800 - 4799	2	0.31	0.7	22.78	2.7	-11.6	14.1	-1.19	1.17	-0.7	0.3
4800 - 5799	0										
ALL VEHICLES	2	0.31	0.7	22.78	2.7	-11.6	14.1	-1.19	1.17	-0.7	0.3

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PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	-6.7	0.0	35.2	0.0	-4.8	0.0	-10.2	0.0	-3.0	0.0
FORD MOTOR CO.	0										
GENERAL MOTORS	1	47.7	0.0	59.9	0.0	-0.3	0.0	-202.0	0.0	-6.0	0.0
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	2	20.5	38.5	47.6	17.5	-2.5	3.1	-106.1	135.6	-4.5	2.1
*VEHICLE TYPE											
AUTOMOBILE	0										
TRUCK	2	20.5	38.5	47.6	17.5	-2.5	3.1	-106.1	135.6	-4.5	2.1
*VEHICLE OWNER											
GSA	2	20.5	38.5	47.6	17.5	-2.5	3.1	-106.1	135.6	-4.5	2.1
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	1	47.7	0.0	59.9	0.0	-0.3	0.0	-202.0	0.0	-6.0	0.0
A.PMP/NO CNV	0										
NO CNV/NO APMP	1	-6.7	0.0	35.2	0.0	-4.8	0.0	-10.2	0.0	-3.0	0.0
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	2	20.5	38.5	47.6	17.5	-2.5	3.1	-106.1	135.6	-4.5	2.1
251 - 350	0										
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	0										
3800 - 4799	2	20.5	38.5	47.6	17.5	-2.5	3.1	-106.1	135.6	-4.5	2.1
4800 - 5799	0										
ALL VEHICLES	2	20.5	38.5	47.6	17.5	-2.5	3.1	-106.1	135.6	-4.5	2.1

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EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(PARAMETRIC ADJ.-PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	3.52	0.0	45.44	0.0	474.4	0.0	3.90	0.00	15.9	0.0
FORD MOTOR CO.	0										
GENERAL MOTORS	1	0.92	0.0	13.95	0.0	539.4	0.0	3.02	0.00	15.7	0.0
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	2	2.22	1.8	29.69	22.3	506.9	46.0	3.46	.62	15.8	0.1
*VEHICLE TYPE											
AUTOMOBILE	0										
TRUCK	2	2.22	1.8	29.69	22.3	506.9	46.0	3.46	.62	15.8	0.1
*VEHICLE OWNER											
GSA	2	2.22	1.8	29.69	22.3	506.9	46.0	3.46	.62	15.8	0.1
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	1	0.92	0.0	13.95	0.0	539.4	0.0	3.02	0.00	15.7	0.0
A.PMP/NO CNV	0										
NO CNV/NO APMP	1	3.52	0.0	45.44	0.0	474.4	0.0	3.90	0.00	15.9	0.0
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	2	2.22	1.8	29.69	22.3	506.9	46.0	3.46	.62	15.8	0.1
251 - 350	0										
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	0										
3800 - 4799	2	2.22	1.8	29.69	22.3	506.9	46.0	3.46	.62	15.8	0.1
4800 - 5799	0										
ALL VEHICLES	2	2.22	1.8	29.69	22.3	506.9	46.0	3.46	.62	15.8	0.1

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EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(PARAMETRIC ADJ.-PARA ADJ/DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	0.33	0.0	7.34	0.0	-4.1	0.0	1.31	0.00	-0.2	0.0
FORD MOTOR CO.	0										
GENERAL MOTORS	1	2.77	0.0	2.79	0.0	16.9	0.0	-0.59	0.00	-0.8	0.0
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	2	1.55	1.7	5.07	3.2	6.4	14.8	0.36	1.34	-0.5	0.4
*VEHICLE TYPE											
AUTOMOBILE	0										
TRUCK	2	1.55	1.7	5.07	3.2	6.4	14.8	0.36	1.34	-0.5	0.4
*VEHICLE OWNER											
GSA	2	1.55	1.7	5.07	3.2	6.4	14.8	0.36	1.34	-0.5	0.4
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	1	2.77	0.0	2.79	0.0	16.9	0.0	-0.59	0.00	-0.8	0.0
A.PMP/NO CNV	0										
NO CNV/NO APMP	1	0.33	0.0	7.34	0.0	-4.1	0.0	1.31	0.00	-0.2	0.0
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	2	1.55	1.7	5.07	3.2	6.4	14.8	0.36	1.34	-0.5	0.4
251 - 350	0										
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	0										
3800 - 4799	2	1.55	1.7	5.07	3.2	6.4	14.8	0.36	1.34	-0.5	0.4
4800 - 5799	0										
ALL VEHICLES	2	1.55	1.7	5.07	3.2	6.4	14.8	0.36	1.34	-0.5	0.4

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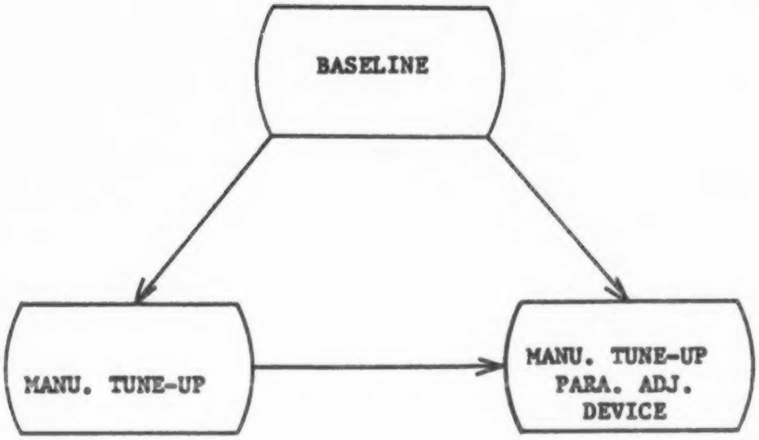
PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(PARAMETRIC ADJ.-PARA ADJ/DEVICE)

	# OF VEH.	HC MEAN	HC S.D.	CO MEAN	CO S.D.	CO2 MEAN	CO2 S.D.	NOX MEAN	NOX S.D.	MPG MEAN	MPG S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	8.6	0.0	13.9	0.0	-0.9	0.0	25.1	0.0	-1.5	0.0
FORD MOTOR CO.	0										
GENERAL MOTORS	1	75.1	0.0	16.7	0.0	3.0	0.0	-24.3	0.0	-5.4	0.0
IMPORTS	0										
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	2	41.8	47.0	15.3	2.0	1.1	2.8	0.4	34.9	-3.4	2.7
*VEHICLE TYPE											
AUTOMOBILE	0										
TRUCK	2	41.8	47.0	15.3	2.0	1.1	2.8	0.4	34.9	-3.4	2.7
*VEHICLE OWNER											
GSA	2	41.8	47.0	15.3	2.0	1.1	2.8	0.4	34.9	-3.4	2.7
PRIVATE OWNER	0										
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	1	75.1	0.0	16.7	0.0	3.0	0.0	-24.3	0.0	-5.4	0.0
A.PMP/NO CNV	0										
NO CNV/NO APMP	1	8.6	0.0	13.9	0.0	-0.9	0.0	25.1	0.0	-1.5	0.0
*DISPLACEMENT											
LESS THAN 151	0										
151 - 250	2	41.8	47.0	15.3	2.0	1.1	2.8	0.4	34.9	-3.4	2.7
251 - 350	0										
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	0										
3800 - 4799	2	41.8	47.0	15.3	2.0	1.1	2.8	0.4	34.9	-3.4	2.7
4800 - 5799	0										
ALL VEHICLES	2	41.8	47.0	15.3	2.0	1.1	2.8	0.4	34.9	-3.4	2.7

1975 VEHICLES

DATA SET 2
5 VEHICLES


BASELINE
MANU. TUNE-UP
MANU. TUNE-UP
PARA. ADJ.
DEVICE

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	2.25	0.0	68.40	0.0	417.9	0.0	2.01	0.00	16.7	0.0
CHRYSLER	0										
FORD MOTOR CO.	0										
GENERAL MOTORS	3	2.49	0.9	40.85	23.9	531.9	131.0	1.55	.31	15.0	2.7
IMPORTS	1	0.67	0.0	10.75	0.0	356.7	0.0	1.42	0.00	23.6	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	5	2.08	1.0	40.34	26.5	474.1	123.8	1.62	.31	17.1	4.2
*VEHICLE TYPE											
AUTOMOBILE	3	1.95	1.2	45.53	30.6	388.2	30.6	1.55	.41	19.5	3.7
TRUCK	2	2.26	1.1	32.55	27.0	602.9	63.6	1.72	.16	13.4	0.4
*VEHICLE OWNER											
GSA	1	3.03	0.0	51.64	0.0	557.9	0.0	1.61	0.00	13.7	0.0
PRIVATE OWNER	4	1.84	1.0	37.51	29.7	453.1	132.3	1.62	.36	17.9	4.4
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	1	1.50	0.0	13.47	0.0	647.9	0.0	1.83	0.00	13.2	0.0
CNV/NO A.PMP	2	2.98	0.1	54.53	4.1	473.9	118.8	1.41	.28	15.9	3.1
A.PMP/NO CNV	1	0.67	0.0	10.75	0.0	356.7	0.0	1.42	0.00	23.6	0.0
NO CNV/NO APMP	1	2.25	0.0	68.40	0.0	417.9	0.0	2.01	0.00	16.7	0.0
*DISPLACEMENT											
LESS THAN 151	1	0.67	0.0	10.75	0.0	356.7	0.0	1.42	0.00	23.6	0.0
151 - 250	2	2.98	0.1	54.53	4.1	473.9	118.8	1.41	.28	15.9	3.1
251 - 350	2	1.88	0.5	40.93	38.8	532.9	162.6	1.92	.13	14.9	2.5
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	3	1.95	1.2	45.53	30.6	388.2	30.6	1.55	.41	19.5	3.7
3800 - 4799	2	2.26	1.1	32.55	27.0	602.9	63.6	1.72	.16	13.4	0.4
4800 - 5799	0										
ALL VEHICLES	5	2.08	1.0	40.34	26.5	474.1	123.8	1.62	.31	17.1	4.2

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	2.13	0.0	60.40	0.0	413.7	0.0	1.35	0.00	17.2	0.0
CHRYSLER	0										
FORD MOTOR CO.	0										
GENERAL MOTORS	3	2.35	0.9	34.54	21.9	519.6	144.3	1.59	.48	15.6	3.0
IMPORTS	1	0.60	0.0	8.65	0.0	348.3	0.0	1.46	0.00	24.4	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	5	1.95	1.0	34.53	24.0	464.2	129.2	1.52	.36	17.7	4.3
*VEHICLE TYPE											
AUTOMOBILE	3	1.96	1.3	42.52	29.4	377.7	33.2	1.35	.11	20.1	3.8
TRUCK	2	1.94	0.9	22.55	9.8	593.9	92.2	1.77	.52	14.1	1.6
*VEHICLE OWNER											
GSA	1	2.56	0.0	29.50	0.0	528.7	0.0	2.14	0.00	15.2	0.0
PRIVATE OWNER	4	1.80	1.1	35.79	27.5	448.0	143.3	1.36	.09	18.3	4.8
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	1	1.33	0.0	15.60	0.0	659.1	0.0	1.40	0.00	12.9	0.0
CNV/NO A.PMP	2	2.85	0.4	44.01	20.5	449.8	111.5	1.69	.64	17.0	2.5
A.PMP/NO CNV	1	0.60	0.0	8.65	0.0	348.3	0.0	1.46	0.00	24.4	0.0
NO CNV/NO APMP	1	2.13	0.0	60.40	0.0	413.7	0.0	1.35	0.00	17.2	0.0
*DISPLACEMENT											
LESS THAN 151	1	0.60	0.0	8.65	0.0	348.3	0.0	1.46	0.00	24.4	0.0
151 - 250	2	2.85	0.4	44.01	20.5	449.8	111.5	1.69	.64	17.0	2.5
251 - 350	2	1.73	0.6	38.00	31.7	536.4	173.5	1.37	.04	15.1	3.1
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	3	1.96	1.3	42.52	29.4	377.7	33.2	1.35	.11	20.1	3.8
3800 - 4799	2	1.94	0.9	22.55	9.8	593.9	92.2	1.77	.52	14.1	1.6
4800 - 5799	0										
ALL VEHICLES	5	1.95	1.0	34.53	24.0	464.2	129.2	1.52	.36	17.7	4.3

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	2.13	0.0	60.40	0.0	413.7	0.0	1.35	0.00	17.2	0.0
CHRYSLER	0										
FORD MOTOR CO.	0										
GENERAL MOTORS	3	2.35	0.9	34.54	21.9	519.6	144.3	1.59	.48	15.6	3.0
IMPORTS	1	0.60	0.0	8.65	0.0	348.3	0.0	1.46	0.00	24.4	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	5	1.95	1.0	34.53	24.0	464.2	129.2	1.52	.36	17.7	4.3
*VEHICLE TYPE											
AUTOMOBILE	3	1.96	1.3	42.52	29.4	377.7	33.2	1.35	.11	20.1	3.8
TRUCK	2	1.94	0.9	22.55	9.8	593.9	92.2	1.77	.52	14.1	1.6
*VEHICLE OWNER											
GSA	1	2.56	0.0	29.50	0.0	528.7	0.0	2.14	0.00	15.2	0.0
PRIVATE OWNER	4	1.80	1.1	35.79	27.5	448.0	143.3	1.36	.09	18.3	4.8
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	1	1.33	0.0	15.60	0.0	659.1	0.0	1.40	0.00	12.9	0.0
CNV/NO A.PMP	2	2.85	0.4	44.01	20.5	449.8	111.5	1.69	.64	17.0	2.5
A.PMP/NO CNV	1	0.60	0.0	8.65	0.0	348.3	0.0	1.46	0.00	24.4	0.0
NO CNV/NO APMP	1	2.13	0.0	60.40	0.0	413.7	0.0	1.35	0.00	17.2	0.0
*DISPLACEMENT											
LESS THAN 151	1	0.60	0.0	8.65	0.0	348.3	0.0	1.46	0.00	24.4	0.0
151 - 250	2	2.85	0.4	44.01	20.5	449.8	111.5	1.69	.64	17.0	2.5
251 - 350	2	1.73	0.6	38.00	31.7	536.4	173.5	1.37	.04	15.1	3.1
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	3	1.96	1.3	42.52	29.4	377.7	33.2	1.35	.11	20.1	3.8
3800 - 4799	2	1.94	0.9	22.55	9.8	593.9	92.2	1.77	.52	14.1	1.6
4800 - 5799	0										
ALL VEHICLES	5	1.95	1.0	34.53	24.0	464.2	129.2	1.52	.36	17.7	4.3

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	0.12	0.0	8.00	0.0	4.2	0.0	0.66	0.00	-0.6	0.0
CHRYSLER	0										
FORD MOTOR CO.	0										
GENERAL MOTORS	3	0.14	0.3	6.31	13.7	12.3	21.0	-0.04	.48	-0.6	0.9
IMPORTS	1	0.07	0.0	2.10	0.0	8.4	0.0	-0.04	0.00	-0.8	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	5	0.12	0.2	5.80	9.9	9.9	15.3	0.10	.46	-0.6	0.6
*VEHICLE TYPE											
AUTOMOBILE	3	-0.01	0.2	3.00	4.6	10.5	7.6	0.20	.40	-0.7	0.1
TRUCK	2	0.32	0.2	10.00	17.2	9.0	28.6	-0.05	.68	-0.6	1.3
*VEHICLE OWNER											
GSA	1	0.47	0.0	22.14	0.0	29.2	0.0	-0.53	0.00	-1.5	0.0
PRIVATE OWNER	4	0.04	0.2	1.72	4.6	5.1	12.5	0.26	.35	-0.4	0.5
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	1	0.17	0.0	-2.13	0.0	-11.2	0.0	0.43	0.00	0.3	0.0
CNV/NO A.PMP	2	0.13	0.5	10.52	16.4	24.0	7.3	-0.28	.36	-1.1	0.6
A.PMP/NO CNV	1	0.07	0.0	2.10	0.0	8.4	0.0	-0.04	0.00	-0.8	0.0
NO CNV/NO APMP	1	0.12	0.0	8.00	0.0	4.2	0.0	0.66	0.00	-0.6	0.0
*DISPLACEMENT											
LESS THAN 151	1	0.07	0.0	2.10	0.0	8.4	0.0	-0.04	0.00	-0.8	0.0
151 - 250	2	0.13	0.5	10.52	16.4	24.0	7.3	-0.28	.36	-1.1	0.6
251 - 350	2	0.14	0.0	2.93	7.2	-3.5	10.9	0.55	.16	-0.1	0.6
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	3	-0.01	0.2	3.00	4.6	10.5	7.6	0.20	.40	-0.7	0.1
3800 - 4799	2	0.32	0.2	10.00	17.2	9.0	28.6	-0.05	.68	-0.6	1.3
4800 - 5799	0										
ALL VEHICLES	5	0.12	0.2	5.80	9.9	9.9	15.3	0.10	.46	-0.6	0.6

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	5.3	0.0	11.7	0.0	1.0	0.0	32.8	0.0	-3.3	0.0
CHRYSLER	0										
FORD MOTOR CO.	0										
GENERAL MOTORS	3	6.6	12.1	8.4	30.7	2.8	3.9	-3.7	28.3	-4.2	6.7
IMPORTS	1	10.4	0.0	19.5	0.0	2.4	0.0	-2.8	0.0	-3.3	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	5	7.1	8.7	11.3	22.2	2.3	2.9	3.8	25.8	-3.9	4.8
*VEHICLE TYPE											
AUTOMOBILE	3	2.9	9.0	9.8	10.8	2.7	1.9	9.5	20.3	-3.4	0.1
TRUCK	2	13.4	3.0	13.5	41.5	1.8	4.9	-4.7	39.9	-4.6	9.4
*VEHICLE OWNER											
GSA	1	15.5	0.0	42.9	0.0	5.2	0.0	-32.9	0.0	-11.3	0.0
PRIVATE OWNER	4	5.0	8.5	3.4	15.6	1.6	2.7	13.0	18.0	-2.0	2.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	1	11.3	0.0	-15.8	0.0	-1.7	0.0	23.5	0.0	2.1	0.0
CNV/NO A.PMP	2	4.2	16.0	20.5	31.7	5.0	0.3	-17.3	22.1	-7.4	5.5
A.PMP/NO CNV	1	10.4	0.0	19.5	0.0	2.4	0.0	-2.8	0.0	-3.3	0.0
NO CNV/NO APMP	1	5.3	0.0	11.7	0.0	1.0	0.0	32.8	0.0	-3.3	0.0
*DISPLACEMENT											
LESS THAN 151	1	10.4	0.0	19.5	0.0	2.4	0.0	-2.8	0.0	-3.3	0.0
151 - 250	2	4.2	16.0	20.5	31.7	5.0	0.3	-17.3	22.1	-7.4	5.5
251 - 350	2	8.3	4.2	-2.1	19.5	-0.4	1.9	28.2	6.6	-0.6	3.8
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	3	2.9	9.0	9.8	10.8	2.7	1.9	9.5	20.3	-3.4	0.1
3800 - 4799	2	13.4	3.0	13.5	41.5	1.8	4.9	-4.7	39.9	-4.6	9.4
4800 - 5799	0										
ALL VEHICLES	5	7.1	8.7	11.3	22.2	2.3	2.9	3.8	25.8	-3.9	4.8

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	1.36	0.0	10.52	0.0	457.3	0.0	3.82	0.00	18.6	0.0
CHRYSLER	0										
FORD MOTOR CO.	0										
GENERAL MOTORS	3	2.14	0.9	25.64	19.6	505.0	110.5	2.68	1.26	16.3	2.3
IMPORTS	1	0.71	0.0	5.14	0.0	334.6	0.0	2.04	0.00	25.7	0.0
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	5	1.70	0.9	18.51	17.1	461.4	107.5	2.78	1.10	18.6	4.4
***VEHICLE TYPE**											
AUTOMOBILE	3	1.74	1.3	21.24	23.4	399.5	61.7	2.58	1.07	20.8	4.3
TRUCK	2	1.64	0.1	14.42	3.9	554.2	99.6	3.07	1.49	15.4	2.5
***VEHICLE OWNER**											
GSA	1	1.74	0.0	17.20	0.0	483.8	0.0	4.13	0.00	17.2	0.0
PRIVATE OWNER	4	1.69	1.0	18.84	19.7	455.8	123.3	2.44	.92	19.0	5.0
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	1	1.55	0.0	11.65	0.0	624.6	0.0	2.02	0.00	13.7	0.0
CNV/NO A.PMP	2	2.44	1.0	32.63	21.8	445.2	54.6	3.01	1.58	17.6	0.6
A.PMP/NO CNV	1	0.71	0.0	5.14	0.0	334.6	0.0	2.04	0.00	25.7	0.0
NO CNV/NO APMP	1	1.36	0.0	10.52	0.0	457.3	0.0	3.82	0.00	18.6	0.0
***DISPLACEMENT**											
LESS THAN 151	1	0.71	0.0	5.14	0.0	334.6	0.0	2.04	0.00	25.7	0.0
151 - 250	2	2.44	1.0	32.63	21.8	445.2	54.6	3.01	1.58	17.6	0.6
251 - 350	2	1.45	0.1	11.08	0.8	540.9	118.3	2.92	1.27	16.1	3.4
MORE THAN 350	0										
***INERTIA WEIGHT**											
1800 - 2799	0										
2800 - 3799	3	1.74	1.3	21.24	23.4	399.5	61.7	2.58	1.07	20.8	4.3
3800 - 4799	2	1.64	0.1	14.42	3.9	554.2	99.6	3.07	1.49	15.4	2.5
4800 - 5799	0										
ALL VEHICLES	5	1.70	0.9	18.51	17.1	461.4	107.5	2.78	1.10	18.6	4.4

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	0.89	0.0	57.88	0.0	-39.4	0.0	-1.81	0.00	-1.9	0.0
CHRYSLER	0										
FORD MOTOR CO.	0										
GENERAL MOTORS	3	0.35	0.8	15.21	17.1	26.9	45.5	-1.13	1.23	-1.3	1.9
IMPORTS	1	-0.04	0.0	5.61	0.0	22.1	0.0	-0.62	0.00	-2.1	0.0
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	5	0.38	0.7	21.82	23.9	12.7	43.4	-1.16	.97	-1.6	1.4
***VEHICLE TYPE**											
AUTOMOBILE	3	0.22	0.6	24.29	29.2	-11.3	31.1	-1.03	.67	-1.3	1.2
TRUCK	2	0.62	0.9	18.13	23.1	48.7	35.9	-1.36	1.65	-2.0	2.1
***VEHICLE OWNER**											
GSA	1	1.29	0.0	34.44	0.0	74.1	0.0	-2.52	0.00	-3.5	0.0
PRIVATE OWNER	4	0.15	0.5	18.67	26.3	-2.7	30.7	-0.82	.69	-1.1	1.1
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	1	-0.05	0.0	1.82	0.0	23.3	0.0	-0.19	0.00	-0.5	0.0
CNV/NO A.PMP	2	0.54	1.1	21.90	17.7	28.7	64.2	-1.60	1.31	-1.7	2.5
A.PMP/NO CNV	1	-0.04	0.0	5.61	0.0	22.1	0.0	-0.62	0.00	-2.1	0.0
NO CNV/NO APMP	1	0.89	0.0	57.88	0.0	-39.4	0.0	-1.81	0.00	-1.9	0.0
***DISPLACEMENT**											
LESS THAN 151	1	-0.04	0.0	5.61	0.0	22.1	0.0	-0.62	0.00	-2.1	0.0
151 - 250	2	0.54	1.1	21.90	17.7	28.7	64.2	-1.60	1.31	-1.7	2.5
251 - 350	2	0.42	0.7	29.85	39.6	-8.1	44.3	-1.00	1.15	-1.2	1.0
MORE THAN 350	0										
***INERTIA WEIGHT**											
1800 - 2799	0										
2800 - 3799	3	0.22	0.6	24.29	29.2	-11.3	31.1	-1.03	.67	-1.3	1.2
3800 - 4799	2	0.62	0.9	18.13	23.1	48.7	35.9	-1.36	1.65	-2.0	2.1
4800 - 5799	0										
ALL VEHICLES	5	0.38	0.7	21.82	23.9	12.7	43.4	-1.16	.97	-1.6	1.4

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	39.6	0.0	84.6	0.0	-9.4	0.0	-90.0	0.0	-11.3	0.0
CHRYSLER	0										
FORD MOTOR CO.	0										
GENERAL MOTORS	3	10.8	27.6	32.2	29.9	4.2	8.8	-73.9	74.9	-9.7	14.0
IMPORTS	1	-6.0	0.0	52.2	0.0	6.2	0.0	-43.7	0.0	-8.9	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	5	13.2	25.5	46.7	31.2	1.9	8.9	-71.1	55.6	-9.9	9.9
*VEHICLE TYPE											
AUTOMOBILE	3	8.9	26.5	51.0	34.2	-2.5	8.0	-62.9	24.2	-6.6	6.2
TRUCK	2	19.6	32.5	40.1	37.6	8.4	6.8	-83.5	103.3	-14.8	15.3
*VEHICLE OWNER											
GSA	1	42.6	0.0	66.7	0.0	13.3	0.0	-156.5	0.0	-25.7	0.0
PRIVATE OWNER	4	5.9	22.5	41.7	33.6	-1.0	7.2	-49.8	32.9	-5.9	5.3
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	1	-3.3	0.0	13.5	0.0	3.6	0.0	-10.4	0.0	-4.0	0.0
CNV/NO A.PMP	2	17.9	34.9	41.5	35.6	4.5	12.4	-105.7	71.8	-12.6	18.5
A.PMP/NO CNV	1	-6.0	0.0	52.2	0.0	6.2	0.0	-43.7	0.0	-8.9	0.0
NO CNV/NO APMP	1	39.6	0.0	84.6	0.0	-9.4	0.0	-90.0	0.0	-11.3	0.0
*DISPLACEMENT											
LESS THAN 151	1	-6.0	0.0	52.2	0.0	6.2	0.0	-43.7	0.0	-8.9	0.0
151 - 250	2	17.9	34.9	41.5	35.6	4.5	12.4	-105.7	71.8	-12.6	18.5
251 - 350	2	18.1	30.3	49.1	50.3	-2.9	9.2	-50.2	56.3	-7.7	5.2
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	3	8.9	26.5	51.0	34.2	-2.5	8.0	-62.9	24.2	-6.6	6.2
3800 - 4799	2	19.6	32.5	40.1	37.6	8.4	6.8	-83.5	103.3	-14.8	15.3
4800 - 5799	0										
ALL VEHICLES	5	13.2	25.5	46.7	31.2	1.9	8.9	-71.1	55.6	-9.9	9.9

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(MANU. TUNE-UP---TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	1.36	0.0	10.52	0.0	457.3	0.0	3.82	0.00	18.6	0.0
CHRYSLER	0										
FORD MOTOR CO.	0										
GENERAL MOTORS	3	2.14	0.9	25.64	19.6	505.0	110.5	2.68	1.26	16.3	2.3
IMPORTS	1	0.71	0.0	5.14	0.0	334.6	0.0	2.04	0.00	25.7	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	5	1.70	0.9	18.51	17.1	461.4	107.5	2.78	1.10	18.6	4.4
*VEHICLE TYPE											
AUTOMOBILE	3	1.74	1.3	21.24	23.4	399.5	61.7	2.58	1.07	20.8	4.3
TRUCK	2	1.64	0.1	14.42	3.9	554.2	99.6	3.07	1.49	15.4	2.5
*VEHICLE OWNER											
GSA	1	1.74	0.0	17.20	0.0	483.8	0.0	4.13	0.00	17.2	0.0
PRIVATE OWNER	4	1.69	1.0	18.84	19.7	455.8	123.3	2.44	.92	19.0	5.0
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	1	1.55	0.0	11.65	0.0	624.6	0.0	2.02	0.00	13.7	0.0
CNV/NO A.PMP	2	2.44	1.0	32.63	21.8	445.2	54.6	3.01	1.58	17.6	0.6
A.PMP/NO CNV	1	0.71	0.0	5.14	0.0	334.6	0.0	2.04	0.00	25.7	0.0
NO CNV/NO APMP	1	1.36	0.0	10.52	0.0	457.3	0.0	3.82	0.00	18.6	0.0
*DISPLACEMENT											
LESS THAN 151	1	0.71	0.0	5.14	0.0	334.6	0.0	2.04	0.00	25.7	0.0
151 - 250	2	2.44	1.0	32.63	21.8	445.2	54.6	3.01	1.58	17.6	0.6
251 - 350	2	1.45	0.1	11.08	0.8	540.9	118.3	2.92	1.27	16.1	3.4
MORE THAN 350	0										
*INERTIA WEIGHT											
1800 - 2799	0										
2800 - 3799	3	1.74	1.3	21.24	23.4	399.5	61.7	2.58	1.07	20.8	4.3
3800 - 4799	2	1.64	0.1	14.42	3.9	554.2	99.6	3.07	1.49	15.4	2.5
4800 - 5799	0										
ALL VEHICLES	5	1.70	0.9	18.51	17.1	461.4	107.5	2.78	1.10	18.6	4.4

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(MANU. TUNE-UP---TUNEUP/PARADJ/DEV)

	# OF VEH.	HC MEAN	HC S.D.	CO MEAN	CO S.D.	CO2 MEAN	CO2 S.D.	NOX MEAN	NOX S.D.	MPG MEAN	MPG S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	0.77	0.0	49.88	0.0	-43.6	0.0	-2.47	0.00	-1.3	0.0
CHRYSLER	0										
FORD MOTOR CO.	0										
GENERAL MOTORS	3	0.20	0.5	8.90	4.4	14.6	43.8	-1.09	.78	-0.7	1.4
IMPORTS	1	-0.11	0.0	3.51	0.0	13.7	0.0	-0.58	0.00	-1.3	0.0
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	5	0.25	0.5	16.02	19.3	2.8	40.4	-1.26	.90	-0.9	1.0
***VEHICLE TYPE**											
AUTOMOBILE	3	0.22	0.5	21.28	25.0	-21.8	31.0	-1.23	1.07	-0.6	1.2
TRUCK	2	0.30	0.7	8.13	5.9	39.7	7.4	-1.31	.97	-1.4	0.8
***VEHICLE OWNER**											
GSA	1	0.82	0.0	12.30	0.0	44.9	0.0	-1.99	0.00	-2.0	0.0
PRIVATE OWNER	4	0.11	0.4	16.95	22.2	-7.8	37.9	-1.08	.93	-0.7	1.0
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	1	-0.22	0.0	3.95	0.0	34.5	0.0	-0.62	0.00	-0.8	0.0
CNV/NO A.PMP	2	0.41	0.6	11.38	1.3	4.6	56.9	-1.32	.95	-0.6	1.9
A.PMP/NO CNV	1	-0.11	0.0	3.51	0.0	13.7	0.0	-0.58	0.00	-1.3	0.0
NO CNV/NO APMP	1	0.77	0.0	49.88	0.0	-43.6	0.0	-2.47	0.00	-1.3	0.0
***DISPLACEMENT**											
LESS THAN 151	1	-0.11	0.0	3.51	0.0	13.7	0.0	-0.58	0.00	-1.3	0.0
151 - 250	2	0.41	0.6	11.38	1.3	4.6	56.9	-1.32	.95	-0.6	1.9
251 - 350	2	0.28	0.7	26.91	32.5	-4.6	55.2	-1.55	1.31	-1.1	0.4
MORE THAN 350	0										
***INERTIA WEIGHT**											
1800 - 2799	0										
2800 - 3799	3	0.22	0.5	21.28	25.0	-21.8	31.0	-1.23	1.07	-0.6	1.2
3800 - 4799	2	0.30	0.7	8.13	5.9	39.7	7.4	-1.31	.97	-1.4	0.8
4800 - 5799	0										
ALL VEHICLES	5	0.25	0.5	16.02	19.3	2.8	40.4	-1.26	.90	-0.9	1.0

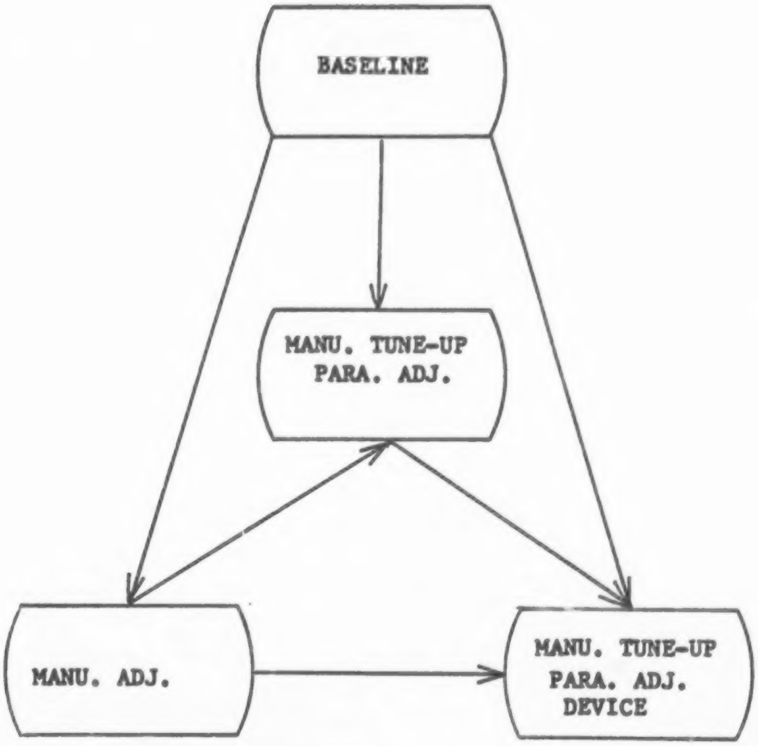
PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(MANU. TUNE-UP---TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	36.2	0.0	82.6	0.0	-10.5	0.0	-183.0	0.0	-7.8	0.0
CHRYSLER	0										
FORD MOTOR CO.	0										
GENERAL MOTORS	3	5.3	24.7	28.3	12.2	1.4	9.6	-63.2	26.1	-5.1	8.5
IMPORTS	1	-18.3	0.0	40.6	0.0	3.9	0.0	-39.7	0.0	-5.5	0.0
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	5	6.7	26.1	41.6	25.0	-0.5	8.9	-82.5	60.0	-5.7	6.1
***VEHICLE TYPE**											
AUTOMOBILE	3	6.0	27.7	47.0	32.8	-5.4	8.1	-91.7	79.3	-3.1	6.2
TRUCK	2	7.7	34.3	33.5	11.6	6.9	2.3	-68.6	34.4	-9.6	4.8
***VEHICLE OWNER**											
GSA	1	32.0	0.0	41.7	0.0	8.5	0.0	-93.0	0.0	-12.9	0.0
PRIVATE OWNER	4	0.4	25.3	41.6	28.9	-2.7	8.5	-79.8	68.9	-3.9	5.3
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	1	-16.5	0.0	25.3	0.0	5.2	0.0	-44.3	0.0	-6.2	0.0
CNV/NO A.PMP	2	16.2	22.4	29.8	16.8	-0.6	12.8	-72.7	28.7	-4.5	11.9
A.PMP/NO CNV	1	-18.3	0.0	40.6	0.0	3.9	0.0	-39.7	0.0	-5.5	0.0
NO CNV/NO APMP	1	36.2	0.0	82.6	0.0	-10.5	0.0	-183.0	0.0	-7.8	0.0
***DISPLACEMENT**											
LESS THAN 151	1	-18.3	0.0	40.6	0.0	3.9	0.0	-39.7	0.0	-5.5	0.0
151 - 250	2	16.2	22.4	29.8	16.8	-0.6	12.8	-72.7	28.7	-4.5	11.9
251 - 350	2	9.8	37.3	54.0	40.5	-2.7	11.2	-113.6	98.1	-7.0	1.1
MORE THAN 350	0										
***INERTIA WEIGHT**											
1800 - 2799	0										
2800 - 3799	3	6.0	27.7	47.0	32.8	-5.4	8.1	-91.7	79.3	-3.1	6.2
3800 - 4799	2	7.7	34.3	33.5	11.6	6.9	2.3	-68.6	34.4	-9.6	4.8
4800 - 5799	0										
ALL VEHICLES	5	6.7	26.1	41.6	25.0	-0.5	8.9	-82.5	60.0	-5.7	6.1

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

1975 VEHICLES

DATA SET 3
15 VEHICLES


BASELINE
MANU. TUNE-UP PARA. ADJ.
MANU. ADJ.
MANU. TUNE-UP PARA. ADJ. DEVICE

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	2.68	0.0	40.41	0.0	659.7	0.0	3.03	0.00	12.1	0.0
FORD MOTOR CO.	1	1.00	0.0	11.83	0.0	702.0	0.0	0.85	0.00	12.3	0.0
GENERAL MOTORS	12	2.09	0.7	58.08	29.9	632.2	70.5	1.33	.44	12.3	1.4
IMPORTS	1	1.71	0.0	42.31	0.0	339.1	0.0	1.81	0.00	21.6	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	2.03	0.7	52.77	29.5	619.2	101.3	1.44	.61	12.9	2.7
*VEHICLE TYPE											
AUTOMOBILE	15	2.03	0.7	52.77	29.5	619.2	101.3	1.44	.61	12.9	2.7
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	2.03	0.7	52.77	29.5	619.2	101.3	1.44	.61	12.9	2.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	1.54	0.8	20.71	13.3	668.6	97.7	1.75	1.16	12.8	1.9
CNV/NO A.PMP	10	2.26	0.6	66.64	24.6	627.4	53.8	1.28	.22	12.1	1.0
A.PMP/NO CNV	1	1.71	0.0	42.31	0.0	339.1	0.0	1.81	0.00	21.6	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	1.35	0.5	29.67	17.9	439.4	141.9	1.24	.80	18.6	4.2
151 - 250	0										
251 - 350	11	2.25	0.7	60.93	29.1	628.9	49.5	1.40	.59	12.2	0.9
MORE THAN 350	2	1.49	0.0	30.99	24.6	745.1	39.2	1.88	.78	11.1	0.0
*INERTIA WEIGHT											
1800 - 2799	1	1.00	0.0	17.04	0.0	539.8	0.0	0.68	0.00	15.6	0.0
2800 - 3799	2	1.35	0.5	27.07	21.6	520.6	256.6	1.33	.68	16.9	6.6
3800 - 4799	11	2.30	0.6	61.09	28.8	635.4	62.8	1.54	.64	12.1	1.0
4800 - 5799	1	1.50	0.0	48.41	0.0	717.4	0.0	1.33	0.00	11.1	0.0
ALL VEHICLES	15	2.03	0.7	52.77	29.5	619.2	101.3	1.44	.61	12.9	2.7

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	3.76	0.0	48.03	0.0	790.8	0.0	2.66	0.00	10.1	0.0
FORD MOTOR CO.	1	1.33	0.0	16.81	0.0	694.7	0.0	2.21	0.00	12.2	0.0
GENERAL MOTORS	12	1.83	0.4	48.16	21.2	646.9	70.6	1.21	.39	12.3	1.3
IMPORTS	1	2.05	0.0	58.33	0.0	348.0	0.0	1.48	0.00	19.9	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	1.94	0.6	46.74	20.7	639.8	109.1	1.39	.56	12.7	2.4
*VEHICLE TYPE											
AUTOMOBILE	15	1.94	0.6	46.74	20.7	639.8	109.1	1.39	.56	12.7	2.4
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	1.94	0.6	46.74	20.7	639.8	109.1	1.39	.56	12.7	2.4
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	2.20	1.1	23.36	17.7	689.4	116.3	1.90	.85	12.4	2.4
CNV/NO A.PMP	10	1.83	0.4	54.94	15.2	649.1	57.8	1.17	.28	12.0	0.8
A.PMP/NO CNV	1	2.05	0.0	58.33	0.0	348.0	0.0	1.48	0.00	19.9	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	1.98	0.1	40.23	25.6	436.6	125.3	1.08	.56	17.8	3.0
151 - 250	0										
251 - 350	11	2.00	0.7	52.50	17.8	661.7	69.3	1.35	.58	11.9	1.0
MORE THAN 350	2	1.60	0.3	21.61	21.4	722.2	35.0	1.88	.22	11.7	0.0
*INERTIA WEIGHT											
1800 - 2799	1	1.91	0.0	22.13	0.0	525.2	0.0	0.69	0.00	15.7	0.0
2800 - 3799	2	1.69	0.5	37.57	29.4	521.3	245.2	1.84	.52	16.1	5.4
3800 - 4799	11	2.04	0.7	51.56	20.0	666.5	73.5	1.34	.55	11.8	1.0
4800 - 5799	1	1.40	0.0	36.75	0.0	697.5	0.0	1.72	0.00	11.7	0.0
ALL VEHICLES	15	1.94	0.6	46.74	20.7	639.8	109.1	1.39	.56	12.7	2.4

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLE-COLD START DATA)
(TUNE-UP/PARA ADJ)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	3.11	0.0	38.58	0.0	727.6	0.0	3.49	0.00	11.1	0.0
FORD MOTOR CO.	1	1.09	0.0	10.15	0.0	645.2	0.0	2.94	0.00	13.4	0.0
GENERAL MOTORS	12	1.84	0.5	38.29	17.2	615.9	86.2	1.60	.60	13.3	2.1
IMPORTS	1	2.20	0.0	63.77	0.0	355.4	0.0	1.21	0.00	19.2	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	1.90	0.6	38.13	18.3	607.9	107.6	1.79	.80	13.5	2.5
*VEHICLE TYPE											
AUTOMOBILE	15	1.90	0.6	38.13	18.3	607.9	107.6	1.79	.80	13.5	2.5
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	1.90	0.6	38.13	18.3	607.9	107.6	1.79	.80	13.5	2.5
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	1.89	0.9	19.38	13.2	644.7	146.2	2.55	1.09	13.6	3.6
CNV/NO A.PMP	10	1.87	0.5	43.07	14.4	618.5	55.3	1.54	.49	12.9	1.1
A.PMP/NO CNV	1	2.20	0.0	63.77	0.0	355.4	0.0	1.21	0.00	19.2	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	1.98	0.3	40.52	32.9	397.2	59.1	1.09	.16	19.0	0.3
151 - 250	0										
251 - 350	11	1.99	0.6	41.88	15.4	630.6	62.1	1.82	.84	12.7	1.2
MORE THAN 350	2	1.31	0.4	15.15	5.1	694.0	103.0	2.31	.66	12.4	1.7
*INERTIA WEIGHT											
1800 - 2799	1	1.77	0.0	17.27	0.0	439.0	0.0	0.98	0.00	18.8	0.0
2800 - 3799	2	1.64	0.8	36.96	37.9	500.3	204.9	2.07	1.22	16.3	4.1
3800 - 4799	11	2.04	0.5	42.00	15.1	641.7	74.6	1.80	.82	12.5	1.2
4800 - 5799	1	1.02	0.0	18.78	0.0	621.2	0.0	1.84	0.00	13.6	0.0
ALL VEHICLES	15	1.90	0.6	38.13	18.3	607.9	107.6	1.79	.80	13.5	2.5

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	3.76	0.0	48.03	0.0	790.8	0.0	2.66	0.00	10.1	0.0
FORD MOTOR CO.	1	1.33	0.0	16.81	0.0	694.7	0.0	2.21	0.00	12.2	0.0
GENERAL MOTORS	12	1.83	0.4	48.16	21.2	646.9	70.6	1.21	.39	12.3	1.3
IMPORTS	1	2.05	0.0	58.33	0.0	348.0	0.0	1.48	0.00	19.9	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	1.94	0.6	46.74	20.7	639.8	109.1	1.39	.56	12.7	2.4
*VEHICLE TYPE											
AUTOMOBILE	15	1.94	0.6	46.74	20.7	639.8	109.1	1.39	.56	12.7	2.4
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	1.94	0.6	46.74	20.7	639.8	109.1	1.39	.56	12.7	2.4
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	2.20	1.1	23.36	17.7	689.4	116.3	1.90	.85	12.4	2.4
CNV/NO A.PMP	10	1.83	0.4	54.94	15.2	649.1	57.8	1.17	.28	12.0	0.8
A.PMP/NO CNV	1	2.05	0.0	58.33	0.0	348.0	0.0	1.48	0.00	19.9	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	1.98	0.1	40.23	25.6	436.6	125.3	1.08	.56	17.8	3.0
151 - 250	0										
251 - 350	11	2.00	0.7	52.50	17.8	661.7	69.3	1.35	.58	11.9	1.0
MORE THAN 350	2	1.60	0.3	21.61	21.4	722.2	35.0	1.88	.22	11.7	0.0
*INERTIA WEIGHT											
1800 - 2799	1	1.91	0.0	22.13	0.0	525.2	0.0	0.69	0.00	15.7	0.0
2800 - 3799	2	1.69	0.5	37.57	29.4	521.3	245.2	1.84	.52	16.1	5.4
3800 - 4799	11	2.04	0.7	51.56	20.0	666.5	73.5	1.34	.55	11.8	1.0
4800 - 5799	1	1.40	0.0	36.75	0.0	697.5	0.0	1.72	0.00	11.7	0.0
ALL VEHICLES	15	1.94	0.6	46.74	20.7	639.8	109.1	1.39	.56	12.7	2.4

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--COLD START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF VEH.	HC MEAN	HC S.D.	CO MEAN	CO S.D.	CO2 MEAN	CO2 S.D.	NOX MEAN	NOX S.D.	MPG MEAN	MPG S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	-1.08	0.0	-7.62	0.0	-131.1	0.0	0.37	0.00	2.0	0.0
FORD MOTOR CO.	1	-0.33	0.0	-4.98	0.0	7.3	0.0	-1.36	0.00	0.0	0.0
GENERAL MOTORS	12	0.26	0.6	9.92	23.1	-14.7	36.2	0.12	.27	0.0	0.6
IMPORTS	1	-0.34	0.0	-16.02	0.0	-8.9	0.0	0.33	0.00	1.7	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	0.09	0.6	6.03	22.1	-20.6	44.7	0.05	.46	0.2	0.9
*VEHICLE TYPE											
AUTOMOBILE	15	0.09	0.6	6.03	22.1	-20.6	44.7	0.05	.46	0.2	0.9
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	0.09	0.6	6.03	22.1	-20.6	44.7	0.05	.46	0.2	0.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	-0.66	0.4	-2.65	6.6	-20.8	73.9	-0.15	.83	0.4	1.1
CNV/NO A.PMP	10	0.43	0.4	11.70	24.9	-21.7	35.6	0.11	.28	0.1	0.7
A.PMP/NO CNV	1	-0.34	0.0	-16.02	0.0	-8.9	0.0	0.33	0.00	1.7	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	-0.63	0.4	-10.56	7.7	2.9	16.6	0.16	.24	0.8	1.3
151 - 250	0										
251 - 350	11	0.25	0.6	8.43	24.8	-32.8	45.9	0.04	.51	0.3	0.8
MORE THAN 350	2	-0.11	0.3	9.38	3.2	22.9	4.2	0.01	.57	-0.5	0.0
*INERTIA WEIGHT											
1800 - 2799	1	-0.91	0.0	-5.09	0.0	14.6	0.0	-0.01	0.00	-0.1	0.0
2800 - 3799	2	-0.34	0.0	-10.50	7.8	-0.8	11.5	-0.51	1.20	0.9	1.2
3800 - 4799	11	0.25	0.6	9.53	24.4	-31.1	47.9	0.20	.23	0.2	0.9
4800 - 5799	1	0.10	0.0	11.66	0.0	19.9	0.0	-0.39	0.00	-0.6	0.0
ALL VEHICLES	15	0.09	0.6	6.03	22.1	-20.6	44.7	0.05	.46	0.2	0.9

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	-40.3	0.0	-18.9	0.0	-19.9	0.0	12.2	0.0	16.7	0.0
FORD MOTOR CO.	1	-33.0	0.0	-42.1	0.0	1.0	0.0	-160.0	0.0	0.2	0.0
GENERAL MOTORS	12	4.5	34.8	12.7	26.7	-2.5	5.8	7.1	19.4	-0.2	5.4
IMPORTS	1	-19.9	0.0	-37.9	0.0	-2.6	0.0	18.2	0.0	7.9	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	-2.6	34.4	3.5	30.6	-3.4	7.0	-3.0	46.8	1.5	6.7
*VEHICLE TYPE											
AUTOMOBILE	15	-2.6	34.4	3.5	30.6	-3.4	7.0	-3.0	46.8	1.5	6.7
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	-2.6	34.4	3.5	30.6	-3.4	7.0	-3.0	46.8	1.5	6.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	-46.3	30.9	-9.6	42.4	-3.2	11.2	-33.1	84.9	2.9	9.4
CNV/NO A.PMP	10	16.6	15.2	13.0	22.3	-3.6	5.8	7.0	21.0	0.3	5.8
A.PMP/NO CNV	1	-19.9	0.0	-37.9	0.0	-2.6	0.0	18.2	0.0	7.9	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	-55.4	50.3	-33.9	5.7	0.0	3.8	8.4	13.9	3.6	6.0
151 - 250	0										
251 - 350	11	7.8	26.1	4.0	27.4	-5.2	7.2	-4.4	54.0	2.2	7.1
MORE THAN 350	2	-7.1	19.4	38.2	19.9	3.1	0.4	-6.3	32.6	-4.9	0.3
*INERTIA WEIGHT											
1800 - 2799	1	-91.0	0.0	-29.9	0.0	2.7	0.0	-1.5	0.0	-0.6	0.0
2800 - 3799	2	-26.4	9.3	-40.0	3.0	-0.8	2.6	-70.9	126.0	4.0	5.5
3800 - 4799	11	8.9	24.4	12.6	26.3	-5.0	7.4	11.6	15.9	1.8	7.4
4800 - 5799	1	6.7	0.0	24.1	0.0	2.8	0.0	-29.3	0.0	-5.0	0.0
ALL VEHICLES	15	-2.6	34.4	3.5	30.6	-3.4	7.0	-3.0	46.8	1.5	6.7

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE-TUNE-UP/PARA ADJ)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	3.11	0.0	38.58	0.0	727.6	0.0	3.49	0.00	11.1	0.0
FORD MOTOR CO.	1	1.09	0.0	10.15	0.0	645.2	0.0	2.94	0.00	13.4	0.0
GENERAL MOTORS	12	1.84	0.5	38.29	17.2	615.9	86.2	1.60	.60	13.3	2.1
IMPORTS	1	2.20	0.0	63.77	0.0	355.4	0.0	1.21	0.00	19.2	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	1.90	0.6	38.13	18.3	607.9	107.6	1.79	.80	13.5	2.5
*VEHICLE TYPE											
AUTOMOBILE	15	1.90	0.6	38.13	18.3	607.9	107.6	1.79	.80	13.5	2.5
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	1.90	0.6	38.13	18.3	607.9	107.6	1.79	.80	13.5	2.5
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	1.89	0.9	19.38	13.2	644.7	146.2	2.55	1.09	13.6	3.6
CNV/NO A.PMP	10	1.87	0.5	43.07	14.4	618.5	55.3	1.54	.49	12.9	1.1
A.PMP/NO CNV	1	2.20	0.0	63.77	0.0	355.4	0.0	1.21	0.00	19.2	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	1.98	0.3	40.52	32.9	397.2	59.1	1.09	.16	19.0	0.3
151 - 250	0										
251 - 350	11	1.99	0.6	41.88	15.4	630.6	62.1	1.82	.84	12.7	1.2
MORE THAN 350	2	1.31	0.4	15.15	5.1	694.0	103.0	2.31	.66	12.4	1.7
*INERTIA WEIGHT											
1800 - 2799	1	1.77	0.0	17.27	0.0	439.0	0.0	0.98	0.00	18.8	0.0
2800 - 3799	2	1.64	0.8	36.96	37.9	500.3	204.9	2.07	1.22	16.3	4.1
3800 - 4799	11	2.04	0.5	42.00	15.1	641.7	74.6	1.80	.82	12.5	1.2
4800 - 5799	1	1.02	0.0	18.78	0.0	621.2	0.0	1.84	0.00	13.6	0.0
ALL VEHICLES	15	1.90	0.6	38.13	18.3	607.9	107.6	1.79	.80	13.5	2.5

AUTOMOTIVE TESTING LABORATORIES,INC.
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EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE-TUNE-UP/PARA ADJ)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	-0.43	0.0	1.83	0.0	-67.9	0.0	-0.46	0.00	1.0	0.0
FORD MOTOR CO.	1	-0.09	0.0	1.68	0.0	56.8	0.0	-2.09	0.00	-1.1	0.0
GENERAL MOTORS	12	0.25	0.7	19.79	25.8	16.3	47.0	-0.27	.40	-1.0	1.2
IMPORTS	1	-0.49	0.0	-21.46	0.0	-16.3	0.0	0.60	0.00	2.4	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	0.13	0.7	14.64	25.8	11.2	49.1	-0.35	.64	-0.6	1.4
*VEHICLE TYPE											
AUTOMOBILE	15	0.13	0.7	14.64	25.8	11.2	49.1	-0.35	.64	-0.6	1.4
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	0.13	0.7	14.64	25.8	11.2	49.1	-0.35	.64	-0.6	1.4
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	-0.35	0.3	1.33	1.0	23.9	72.4	-0.80	.86	-0.9	1.8
CNV/NO A.PMP	10	0.38	0.7	23.57	26.8	8.9	42.9	-0.26	.45	-0.8	1.0
A.PMP/NO CNV	1	-0.49	0.0	-21.46	0.0	-16.3	0.0	0.60	0.00	2.4	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	-0.63	0.2	-10.85	15.0	42.3	82.8	0.15	.64	-0.4	4.0
151 - 250	0										
251 - 350	11	0.26	0.7	19.05	26.8	-1.7	39.8	-0.42	.70	-0.5	0.9
MORE THAN 350	2	0.18	0.4	15.83	19.5	51.1	63.8	-0.43	.12	-1.3	1.6
*INERTIA WEIGHT											
1800 - 2799	1	-0.77	0.0	-0.23	0.0	100.8	0.0	-0.30	0.00	-3.2	0.0
2800 - 3799	2	-0.29	0.3	-9.89	16.4	20.3	51.7	-0.74	1.90	0.7	2.5
3800 - 4799	11	0.26	0.7	19.08	26.8	-6.3	35.0	-0.26	.42	-0.4	0.9
4800 - 5799	1	0.48	0.0	29.63	0.0	96.2	0.0	-0.51	0.00	-2.4	0.0
ALL VEHICLES	15	0.13	0.7	14.64	25.8	11.2	49.1	-0.35	.64	-0.6	1.4

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE-TUNE-UP/PARA ADJ)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	-16.0	0.0	4.5	0.0	-10.3	0.0	-15.2	0.0	8.3	0.0
FORD MOTOR CO.	1	-9.0	0.0	14.2	0.0	8.1	0.0	-245.9	0.0	-8.9	0.0
GENERAL MOTORS	12	3.2	39.0	26.7	27.0	2.7	7.7	-22.2	31.1	-7.8	9.0
IMPORTS	1	-28.7	0.0	-50.7	0.0	-4.8	0.0	33.1	0.0	11.1	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	-1.0	35.8	19.3	31.4	1.7	8.0	-33.0	66.6	-5.5	10.1
*VEHICLE TYPE											
AUTOMOBILE	15	-1.0	35.8	19.3	31.4	1.7	8.0	-33.0	66.6	-5.5	10.1
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	-1.0	35.8	19.3	31.4	1.7	8.0	-33.0	66.6	-5.5	10.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	-27.5	33.2	8.1	7.9	4.3	12.2	-79.8	111.6	-5.6	12.3
CNV/NO A.PMP	10	12.4	32.2	30.7	27.7	1.2	6.5	-20.9	33.4	-7.1	8.6
A.PMP/NO CNV	1	-28.7	0.0	-50.7	0.0	-4.8	0.0	33.1	0.0	11.1	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	-52.8	34.2	-26.0	34.9	6.9	16.6	-5.5	54.6	-4.8	22.5
151 - 250	0										
251 - 350	11	6.1	31.2	24.1	25.4	-0.3	6.2	-39.2	75.3	-4.5	7.9
MORE THAN 350	2	12.0	28.3	38.1	32.7	7.1	8.9	-26.1	17.3	-11.6	14.8
*INERTIA WEIGHT											
1800 - 2799	1	-77.0	0.0	-1.3	0.0	18.7	0.0	-44.1	0.0	-20.7	0.0
2800 - 3799	2	-18.8	13.9	-18.3	45.9	1.6	9.1	-106.4	197.3	1.1	14.1
3800 - 4799	11	6.1	31.2	24.1	25.4	-0.9	5.5	-18.1	31.2	-3.8	7.8
4800 - 5799	1	32.0	0.0	61.2	0.0	13.4	0.0	-38.3	0.0	-22.0	0.0
ALL VEHICLES	15	-1.0	35.8	19.3	31.4	1.7	8.0	-33.0	66.6	-5.5	10.1

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	2.27	0.0	32.30	0.0	600.2	0.0	2.76	0.00	13.5	0.0
FORD MOTOR CO.	1	0.98	0.0	6.27	0.0	617.8	0.0	3.90	0.00	14.1	0.0
GENERAL MOTORS	12	1.27	0.6	25.16	15.4	628.3	86.6	1.84	.29	13.5	2.4
IMPORTS	1	1.22	0.0	25.69	0.0	356.0	0.0	1.93	0.00	22.2	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	1.31	0.6	24.41	14.7	607.5	103.9	2.04	.62	14.1	3.1
*VEHICLE TYPE											
AUTOMOBILE	15	1.31	0.6	24.41	14.7	607.5	103.9	2.04	.62	14.1	3.1
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	1.31	0.6	24.41	14.7	607.5	103.9	2.04	.62	14.1	3.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	1.39	0.8	13.86	12.8	595.7	143.2	2.65	.95	14.9	3.9
CNV/NO A.PMP	10	1.29	0.6	28.50	14.6	637.4	43.1	1.81	.27	13.0	0.8
A.PMP/NO CNV	1	1.22	0.0	25.69	0.0	356.0	0.0	1.93	0.00	22.2	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	1.52	0.4	19.13	9.3	382.1	36.9	1.78	.21	21.3	1.2
151 - 250	0										
251 - 350	11	1.39	0.7	27.81	15.2	631.7	42.5	2.08	.71	13.1	0.9
MORE THAN 350	2	0.71	0.3	10.99	9.5	699.9	80.0	2.06	.34	12.4	1.1
*INERTIA WEIGHT											
1800 - 2799	1	1.82	0.0	12.58	0.0	408.2	0.0	1.64	0.00	20.5	0.0
2800 - 3799	2	1.10	0.2	15.98	13.7	486.9	185.1	2.91	1.39	18.1	5.7
3800 - 4799	11	1.34	0.7	27.63	15.4	644.3	56.3	1.94	.40	12.9	0.9
4800 - 5799	1	0.91	0.0	17.68	0.0	643.4	0.0	1.82	0.00	13.2	0.0
ALL VEHICLES	15	1.31	0.6	24.41	14.7	607.5	103.9	2.04	.62	14.1	3.1

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	0.41	0.0	8.11	0.0	59.5	0.0	0.27	0.00	-1.4	0.0
FORD MOTOR CO.	1	0.02	0.0	5.56	0.0	84.2	0.0	-3.05	0.00	-1.8	0.0
GENERAL MOTORS	12	0.82	0.7	32.92	24.6	4.0	61.7	-0.51	.34	-1.2	1.4
IMPORTS	1	0.49	0.0	16.62	0.0	-16.9	0.0	-0.12	0.00	-0.6	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	0.72	0.7	28.36	23.9	11.6	60.3	-0.60	.77	-1.2	1.3
*VEHICLE TYPE											
AUTOMOBILE	15	0.72	0.7	28.36	23.9	11.6	60.3	-0.60	.77	-1.2	1.3
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	0.72	0.7	28.36	23.9	11.6	60.3	-0.60	.77	-1.2	1.3
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	0.15	0.8	6.84	2.2	72.9	48.1	-0.90	1.54	-2.1	1.9
CNV/NO A.PMP	10	0.97	0.5	38.14	23.7	-10.1	51.0	-0.53	.27	-0.9	0.9
A.PMP/NO CNV	1	0.49	0.0	16.62	0.0	-16.9	0.0	-0.12	0.00	-0.6	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	-0.16	0.9	10.54	8.6	57.4	105.0	-0.54	.59	-2.7	3.0
151 - 250	0										
251 - 350	11	0.86	0.6	33.12	25.8	-2.8	54.3	-0.69	.86	-0.9	0.9
MORE THAN 350	2	0.78	0.3	19.99	15.2	45.2	40.7	-0.18	.45	-1.3	1.1
*INERTIA WEIGHT											
1800 - 2799	1	-0.82	0.0	4.46	0.0	131.6	0.0	-0.96	0.00	-4.9	0.0
2800 - 3799	2	0.25	0.3	11.09	7.8	33.7	71.5	-1.58	2.07	-1.2	0.9
3800 - 4799	11	0.95	0.5	33.46	25.5	-9.0	46.8	-0.40	.39	-0.8	0.8
4800 - 5799	1	0.59	0.0	30.73	0.0	74.0	0.0	-0.49	0.00	-2.1	0.0
ALL VEHICLES	15	0.72	0.7	28.36	23.9	11.6	60.3	-0.60	.77	-1.2	1.3

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	15.3	0.0	20.1	0.0	9.0	0.0	8.9	0.0	-11.2	0.0
FORD MOTOR CO.	1	2.0	0.0	47.0	0.0	12.0	0.0	-358.8	0.0	-14.8	0.0
GENERAL MOTORS	12	34.1	41.3	54.7	20.2	0.5	10.6	-47.9	40.7	-9.5	10.2
IMPORTS	1	28.7	0.0	39.3	0.0	-5.0	0.0	-6.6	0.0	-2.7	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	30.4	37.8	50.8	20.3	1.5	10.2	-62.1	91.3	-9.5	9.3
*VEHICLE TYPE											
AUTOMOBILE	15	30.4	37.8	50.8	20.3	1.5	10.2	-62.1	91.3	-9.5	9.3
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	30.4	37.8	50.8	20.3	1.5	10.2	-62.1	91.3	-9.5	9.3
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	0.3	61.3	40.4	21.9	11.9	9.3	-121.3	173.1	-15.4	11.4
CNV/NO A.PMP	10	42.6	20.0	56.2	19.6	-2.0	8.2	-43.9	26.8	-7.8	8.2
A.PMP/NO CNV	1	28.7	0.0	39.3	0.0	-5.0	0.0	-6.6	0.0	-2.7	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	-26.7	78.2	32.7	9.3	9.7	20.8	-73.9	95.1	-17.0	20.2
151 - 250	0										
251 - 350	11	36.7	23.7	51.4	21.3	-0.9	8.7	-68.4	100.9	-7.8	7.4
MORE THAN 350	2	52.6	18.7	65.8	3.4	6.2	5.8	-15.6	30.1	-11.4	9.9
*INERTIA WEIGHT											
1800 - 2799	1	-82.0	0.0	26.2	0.0	24.4	0.0	-141.2	0.0	-31.3	0.0
2800 - 3799	2	15.3	18.8	43.1	5.5	3.5	12.0	-182.7	249.0	-8.7	8.5
3800 - 4799	11	42.5	22.1	53.3	21.9	-1.8	7.7	-35.2	32.9	-6.9	7.1
4800 - 5799	1	39.3	0.0	63.5	0.0	10.3	0.0	-36.8	0.0	-18.4	0.0
ALL VEHICLES	15	30.4	37.8	50.8	20.3	1.5	10.2	-62.1	91.3	-9.5	9.3

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(MANU. TUNE-UP--TUNE-UP/PARA ADJ)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	3.11	0.0	38.58	0.0	727.6	0.0	3.49	0.00	11.1	0.0
FORD MOTOR CO.	1	1.09	0.0	10.15	0.0	645.2	0.0	2.94	0.00	13.4	0.0
GENERAL MOTORS	12	1.84	0.5	38.29	17.2	615.9	86.2	1.60	.60	13.3	2.1
IMPORTS	1	2.20	0.0	63.77	0.0	355.4	0.0	1.21	0.00	19.2	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	1.90	0.6	38.13	18.3	607.9	107.6	1.79	.80	13.5	2.5
*VEHICLE TYPE											
AUTOMOBILE	15	1.90	0.6	38.13	18.3	607.9	107.6	1.79	.80	13.5	2.5
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	1.90	0.6	38.13	18.3	607.9	107.6	1.79	.80	13.5	2.5
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	1.89	0.9	19.38	13.2	644.7	146.2	2.55	1.09	13.6	3.6
CNV/NO A.PMP	10	1.87	0.5	43.07	14.4	618.5	55.3	1.54	.49	12.9	1.1
A.PMP/NO CNV	1	2.20	0.0	63.77	0.0	355.4	0.0	1.21	0.00	19.2	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	1.98	0.3	40.52	32.9	397.2	59.1	1.09	.16	19.0	0.3
151 - 250	0										
251 - 350	11	1.99	0.6	41.88	15.4	630.6	62.1	1.82	.84	12.7	1.2
MORE THAN 350	2	1.31	0.4	15.15	5.1	694.0	103.0	2.31	.66	12.4	1.7
*INERTIA WEIGHT											
1800 - 2799	1	1.77	0.0	17.27	0.0	439.0	0.0	0.98	0.00	18.8	0.0
2800 - 3799	2	1.64	0.8	36.96	37.9	500.3	204.9	2.07	1.22	16.3	4.1
3800 - 4799	11	2.04	0.5	42.00	15.1	641.7	74.6	1.80	.82	12.5	1.2
4800 - 5799	1	1.02	0.0	18.78	0.0	621.2	0.0	1.84	0.00	13.6	0.0
ALL VEHICLES	15	1.90	0.6	38.13	18.3	607.9	107.6	1.79	.80	13.5	2.5

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(MANU. TUNE-UP--TUNE-UP/PARA ADJ)

	# OF VEH.	HC MEAN	HC S.D.	CO MEAN	CO S.D.	CO2 MEAN	CO2 S.D.	NOX MEAN	NOX S.D.	MPG MEAN	MPG S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	0.65	0.0	9.45	0.0	63.2	0.0	-0.83	0.00	-1.0	0.0
FORD MOTOR CO.	1	0.24	0.0	6.66	0.0	49.5	0.0	-0.73	0.00	-1.1	0.0
GENERAL MOTORS	12	-0.01	0.4	9.87	14.0	31.0	28.7	-0.39	.38	-1.0	1.0
IMPORTS	1	-0.15	0.0	-5.44	0.0	-7.4	0.0	0.27	0.00	0.7	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	0.04	0.4	8.61	13.0	31.8	29.2	-0.40	.41	-0.9	1.0
*VEHICLE TYPE											
AUTOMOBILE	15	0.04	0.4	8.61	13.0	31.8	29.2	-0.40	.41	-0.9	1.0
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	0.04	0.4	8.61	13.0	31.8	29.2	-0.40	.41	-0.9	1.0
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	0.31	0.2	3.98	6.3	44.7	45.7	-0.65	.24	-1.2	1.5
CNV/NO A.PMP	10	-0.04	0.5	11.87	14.4	30.6	19.6	-0.36	.40	-0.9	0.6
A.PMP/NO CNV	1	-0.15	0.0	-5.44	0.0	-7.4	0.0	0.27	0.00	0.7	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	-0.01	0.2	-0.29	7.3	39.4	66.2	-0.01	.40	-1.2	2.7
151 - 250	0										
251 - 350	11	0.01	0.5	10.62	13.5	31.1	16.7	-0.46	.40	-0.8	0.5
MORE THAN 350	2	0.28	0.1	6.46	16.3	28.2	68.0	-0.43	.45	-0.7	1.6
*INERTIA WEIGHT											
1800 - 2799	1	0.14	0.0	4.86	0.0	86.2	0.0	-0.29	0.00	-3.1	0.0
2800 - 3799	2	0.05	0.3	0.61	8.6	21.1	40.2	-0.23	.71	-0.2	1.3
3800 - 4799	11	0.00	0.5	9.55	14.3	24.8	21.5	-0.46	.40	-0.7	0.6
4800 - 5799	1	0.38	0.0	17.97	0.0	76.3	0.0	-0.12	0.00	-1.9	0.0
ALL VEHICLES	15	0.04	0.4	8.61	13.0	31.8	29.2	-0.40	.41	-0.9	1.0

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(MANU. TUNE-UP--TUNE-UP/PARA ADJ)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	17.3	0.0	19.7	0.0	8.0	0.0	-31.2	0.0	-10.0	0.0
FORD MOTOR CO.	1	18.0	0.0	39.6	0.0	7.1	0.0	-33.0	0.0	-9.1	0.0
GENERAL MOTORS	12	-1.9	24.3	12.7	34.7	5.0	4.9	-33.1	31.4	-7.5	6.8
IMPORTS	1	-7.3	0.0	-9.3	0.0	-2.1	0.0	18.2	0.0	3.5	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	0.4	22.7	13.5	32.2	4.9	4.8	-29.6	30.8	-7.0	6.8
*VEHICLE TYPE											
AUTOMOBILE	15	0.4	22.7	13.5	32.2	4.9	4.8	-29.6	30.8	-7.0	6.8
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	0.4	22.7	13.5	32.2	4.9	4.8	-29.6	30.8	-7.0	6.8
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	13.3	5.2	0.8	53.4	7.2	7.8	-35.8	4.8	-8.9	9.6
CNV/NO A.PMP	10	-4.0	26.2	20.9	21.7	4.7	2.8	-31.9	34.5	-7.4	5.2
A.PMP/NO CNV	1	-7.3	0.0	-9.3	0.0	-2.1	0.0	18.2	0.0	3.5	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	0.0	10.4	6.3	22.1	7.1	13.1	-11.9	42.6	-8.2	16.6
151 - 250	0										
251 - 350	11	-2.9	24.8	20.0	19.5	4.6	2.2	-34.2	31.7	-7.0	4.1
MORE THAN 350	2	18.8	11.7	-14.7	89.9	4.1	9.6	-22.0	21.2	-6.4	13.9
*INERTIA WEIGHT											
1800 - 2799	1	7.3	0.0	22.0	0.0	16.4	0.0	-42.0	0.0	-20.0	0.0
2800 - 3799	2	5.4	17.9	15.1	34.6	2.5	6.5	-7.4	36.3	-2.8	8.9
3800 - 4799	11	-3.6	24.2	9.2	34.3	3.7	2.9	-34.5	31.7	-5.8	5.1
4800 - 5799	1	27.1	0.0	48.9	0.0	10.9	0.0	-7.0	0.0	-16.2	0.0
ALL VEHICLES	15	0.4	22.7	13.5	32.2	4.9	4.8	-29.6	30.8	-7.0	6.8

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(MANU. TUNE-UP---TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	2.27	0.0	32.30	0.0	600.2	0.0	2.76	0.00	13.5	0.0
FORD MOTOR CO.	1	0.98	0.0	6.27	0.0	617.8	0.0	3.90	0.00	14.1	0.0
GENERAL MOTORS	12	1.27	0.6	25.16	15.4	628.3	86.6	1.84	.29	13.5	2.4
IMPORTS	1	1.22	0.0	25.69	0.0	356.0	0.0	1.93	0.00	22.2	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	1.31	0.6	24.41	14.7	607.5	103.9	2.04	.62	14.1	3.1
*VEHICLE TYPE											
AUTOMOBILE	15	1.31	0.6	24.41	14.7	607.5	103.9	2.04	.62	14.1	3.1
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	1.31	0.6	24.41	14.7	607.5	103.9	2.04	.62	14.1	3.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	1.39	0.8	13.86	12.8	595.7	143.2	2.65	.95	14.9	3.9
CNV/NO A.PMP	10	1.29	0.6	28.50	14.6	637.4	43.1	1.81	.27	13.0	0.8
A.PMP/NO CNV	1	1.22	0.0	25.69	0.0	356.0	0.0	1.93	0.00	22.2	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	1.52	0.4	19.13	9.3	382.1	36.9	1.78	.21	21.3	1.2
151 - 250	0										
251 - 350	11	1.39	0.7	27.81	15.2	631.7	42.5	2.08	.71	13.1	0.9
MORE THAN 350	2	0.71	0.3	10.99	9.5	699.9	80.0	2.06	.34	12.4	1.1
*INERTIA WEIGHT											
1800 - 2799	1	1.82	0.0	12.58	0.0	408.2	0.0	1.64	0.00	20.5	0.0
2800 - 3799	2	1.10	0.2	15.98	13.7	486.9	185.1	2.91	1.39	18.1	5.7
3800 - 4799	11	1.34	0.7	27.63	15.4	644.3	56.3	1.94	.40	12.9	0.9
4800 - 5799	1	0.91	0.0	17.68	0.0	643.4	0.0	1.82	0.00	13.2	0.0
ALL VEHICLES	15	1.31	0.6	24.41	14.7	607.5	103.9	2.04	.62	14.1	3.1

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(MANU. TUNE-UP---TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	1.49	0.0	15.73	0.0	190.6	0.0	-0.10	0.00	-3.4	0.0
FORD MOTOR CO.	1	0.35	0.0	10.54	0.0	76.9	0.0	-1.69	0.00	-1.8	0.0
GENERAL MOTORS	12	0.56	0.6	23.00	13.7	18.7	49.6	-0.63	.37	-1.2	1.4
IMPORTS	1	0.83	0.0	32.64	0.0	-8.0	0.0	-0.45	0.00	-2.3	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	0.63	0.6	22.33	13.0	32.2	64.3	-0.65	.46	-1.5	1.4
*VEHICLE TYPE											
AUTOMOBILE	15	0.63	0.6	22.33	13.0	32.2	64.3	-0.65	.46	-1.5	1.4
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	0.63	0.6	22.33	13.0	32.2	64.3	-0.65	.46	-1.5	1.4
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	0.80	0.7	9.49	5.6	93.8	83.4	-0.75	.72	-2.5	2.1
CNV/NO A.PMP	10	0.54	0.6	26.43	12.2	11.7	42.3	-0.63	.37	-1.0	0.8
A.PMP/NO CNV	1	0.83	0.0	32.64	0.0	-8.0	0.0	-0.45	0.00	-2.3	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	0.46	0.5	21.10	16.3	54.5	88.4	-0.70	.35	-3.5	1.8
151 - 250	0										
251 - 350	11	0.61	0.6	24.69	12.7	30.0	68.5	-0.73	.48	-1.2	1.1
MORE THAN 350	2	0.89	0.6	10.61	12.0	22.3	45.0	-0.18	.12	-0.7	1.1
*INERTIA WEIGHT											
1800 - 2799	1	0.09	0.0	9.55	0.0	117.0	0.0	-0.95	0.00	-4.8	0.0
2800 - 3799	2	0.59	0.3	21.59	15.6	34.4	60.0	-1.07	.88	-2.1	0.3
3800 - 4799	11	0.70	0.6	23.92	13.8	22.2	67.5	-0.60	.37	-1.0	1.1
4800 - 5799	1	0.49	0.0	19.07	0.0	54.1	0.0	-0.10	0.00	-1.5	0.0
ALL VEHICLES	15	0.63	0.6	22.33	13.0	32.2	64.3	-0.65	.46	-1.5	1.4

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(MANU. TUNE-UP---TUNEUP/PARADJ/DEV)

	# OF VEH.	HC MEAN	HC S.D.	CO MEAN	CO S.D.	CO2 MEAN	CO2 S.D.	NOX MEAN	NOX S.D.	MPG MEAN	MPG S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	39.6	0.0	32.8	0.0	24.1	0.0	-3.8	0.0	-33.4	0.0
FORD MOTOR CO.	1	26.3	0.0	62.7	0.0	11.1	0.0	-76.5	0.0	-15.0	0.0
GENERAL MOTORS	12	30.6	29.4	46.8	18.2	3.0	8.5	-63.4	46.1	-9.3	9.4
IMPORTS	1	40.5	0.0	56.0	0.0	-2.3	0.0	-30.4	0.0	-11.5	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	31.6	26.3	47.5	17.2	4.6	9.7	-58.1	44.5	-11.5	10.4
*VEHICLE TYPE											
AUTOMOBILE	15	31.6	26.3	47.5	17.2	4.6	9.7	-58.1	44.5	-11.5	10.4
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	31.6	26.3	47.5	17.2	4.6	9.7	-58.1	44.5	-11.5	10.4
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	35.6	28.0	43.0	14.0	14.0	11.7	-57.8	62.3	-19.7	15.6
CNV/NO A.PMP	10	29.1	28.2	48.5	19.4	1.5	6.6	-60.9	41.2	-8.2	6.9
A.PMP/NO CNV	1	40.5	0.0	56.0	0.0	-2.3	0.0	-30.4	0.0	-11.5	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	22.6	25.3	49.6	9.1	10.0	17.4	-84.0	75.9	-21.0	13.5
151 - 250	0										
251 - 350	11	29.3	26.9	48.0	19.6	3.8	9.4	-62.2	39.6	-10.7	10.1
MORE THAN 350	2	53.3	25.9	42.6	13.1	3.2	6.4	-9.6	5.3	-6.2	9.2
*INERTIA WEIGHT											
1800 - 2799	1	4.7	0.0	43.2	0.0	22.3	0.0	-137.7	0.0	-30.5	0.0
2800 - 3799	2	33.4	10.0	59.3	4.8	4.4	9.5	-53.4	32.6	-13.2	2.5
3800 - 4799	11	33.4	29.7	45.4	19.4	2.7	9.2	-56.4	41.9	-9.3	10.5
4800 - 5799	1	35.0	0.0	51.9	0.0	7.8	0.0	-5.8	0.0	-12.8	0.0
ALL VEHICLES	15	31.6	26.3	47.5	17.2	4.6	9.7	-58.1	44.5	-11.5	10.4

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(TUNE-UP/PARA ADJ--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	2.27	0.0	32.30	0.0	600.2	0.0	2.76	0.00	13.5	0.0
FORD MOTOR CO.	1	0.98	0.0	6.27	0.0	617.8	0.0	3.90	0.00	14.1	0.0
GENERAL MOTORS	12	1.27	0.6	25.16	15.4	628.3	86.6	1.84	.29	13.5	2.4
IMPORTS	1	1.22	0.0	25.69	0.0	356.0	0.0	1.93	0.00	22.2	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	1.31	0.6	24.41	14.7	607.5	103.9	2.04	.62	14.1	3.1
*VEHICLE TYPE											
AUTOMOBILE	15	1.31	0.6	24.41	14.7	607.5	103.9	2.04	.62	14.1	3.1
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	1.31	0.6	24.41	14.7	607.5	103.9	2.04	.62	14.1	3.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	1.39	0.8	13.86	12.8	595.7	143.2	2.65	.95	14.9	3.9
CNV/NO A.PMP	10	1.29	0.6	28.50	14.6	637.4	43.1	1.81	.27	13.0	0.8
A.PMP/NO CNV	1	1.22	0.0	25.69	0.0	356.0	0.0	1.93	0.00	22.2	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	1.52	0.4	19.13	9.3	382.1	36.9	1.78	.21	21.3	1.2
151 - 250	0										
251 - 350	11	1.39	0.7	27.81	15.2	631.7	42.5	2.08	.71	13.1	0.9
MORE THAN 350	2	0.71	0.3	10.99	9.5	699.9	80.0	2.06	.34	12.4	1.1
*INERTIA WEIGHT											
1800 - 2799	1	1.82	0.0	12.58	0.0	408.2	0.0	1.64	0.00	20.5	0.0
2800 - 3799	2	1.10	0.2	15.98	13.7	486.9	185.1	2.91	1.39	18.1	5.7
3800 - 4799	11	1.34	0.7	27.63	15.4	644.3	56.3	1.94	.40	12.9	0.9
4800 - 5799	1	0.91	0.0	17.68	0.0	643.4	0.0	1.82	0.00	13.2	0.0
ALL VEHICLES	15	1.31	0.6	24.41	14.7	607.5	103.9	2.04	.62	14.1	3.1

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(TUNE-UP/PARA ADJ--TUNEUP/PARADJ/DEV)

	# OF VEH.	HC MEAN	HC S.D.	CO MEAN	CO S.D.	CO2 MEAN	CO2 S.D.	NOX MEAN	NOX S.D.	MPG MEAN	MPG S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	0.84	0.0	6.28	0.0	127.4	0.0	0.73	0.00	-2.4	0.0
FORD MOTOR CO.	1	0.11	0.0	3.88	0.0	27.4	0.0	-0.96	0.00	-0.7	0.0
GENERAL MOTORS	12	0.57	0.7	13.13	14.6	-12.3	37.5	-0.24	.45	-0.2	1.0
IMPORTS	1	0.98	0.0	38.08	0.0	-0.6	0.0	-0.72	0.00	-3.0	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	0.59	0.7	13.72	14.9	0.4	49.5	-0.26	.53	-0.6	1.3
*VEHICLE TYPE											
AUTOMOBILE	15	0.59	0.7	13.72	14.9	0.4	49.5	-0.26	.53	-0.6	1.3
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	0.59	0.7	13.72	14.9	0.4	49.5	-0.26	.53	-0.6	1.3
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	0.50	0.6	5.52	1.5	49.0	53.0	-0.10	.83	-1.3	0.9
CNV/NO A.PMP	10	0.58	0.8	14.57	15.7	-18.9	37.5	-0.27	.41	-0.1	1.0
A.PMP/NO CNV	1	0.98	0.0	38.08	0.0	-0.6	0.0	-0.72	0.00	-3.0	0.0
NO CNV/NO APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	0.47	0.7	21.38	23.6	15.1	22.2	-0.69	.04	-2.3	0.9
151 - 250	0										
251 - 350	11	0.61	0.7	14.07	14.9	-1.1	57.2	-0.27	.54	-0.4	1.2
MORE THAN 350	2	0.60	0.7	4.16	4.3	-5.9	23.1	0.25	.33	0.0	0.5
*INERTIA WEIGHT											
1800 - 2799	1	-0.05	0.0	4.69	0.0	30.8	0.0	-0.66	0.00	-1.7	0.0
2800 - 3799	2	0.54	0.6	20.98	24.2	13.4	19.8	-0.84	.17	-1.8	1.6
3800 - 4799	11	0.70	0.7	14.37	14.7	-2.7	56.6	-0.14	.53	-0.3	1.2
4800 - 5799	1	0.11	0.0	1.10	0.0	-22.2	0.0	0.02	0.00	0.4	0.0
ALL VEHICLES	15	0.59	0.7	13.72	14.9	0.4	49.5	-0.26	.53	-0.6	1.3

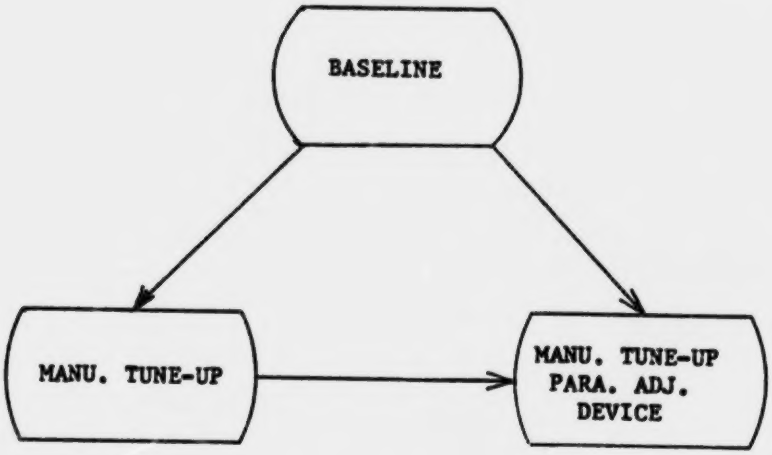
PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(TUNE-UP/PARA ADJ--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	0										
CHRYSLER	1	27.0	0.0	16.3	0.0	17.5	0.0	20.9	0.0	-21.3	0.0
FORD MOTOR CO.	1	10.1	0.0	38.2	0.0	4.2	0.0	-32.7	0.0	-5.4	0.0
GENERAL MOTORS	12	28.5	33.1	32.8	28.8	-2.1	6.4	-25.1	34.0	-1.8	7.5
IMPORTS	1	44.5	0.0	59.7	0.0	-0.2	0.0	-59.5	0.0	-15.5	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	15	28.2	30.1	33.9	26.9	-0.3	7.7	-24.9	33.9	-4.3	8.9
*VEHICLE TYPE											
AUTOMOBILE	15	28.2	30.1	33.9	26.9	-0.3	7.7	-24.9	33.9	-4.3	8.9
TRUCK	0										
*VEHICLE OWNER											
GSA	0										
PRIVATE OWNER	15	28.2	30.1	33.9	26.9	-0.3	7.7	-24.9	33.9	-4.3	8.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	4	25.6	31.0	36.1	19.8	7.5	7.0	-15.5	42.4	-9.7	8.1
CNV/NO A.PMP	10	27.6	32.5	30.4	30.1	-3.4	6.2	-25.2	31.9	-1.0	7.9
A.PMP/NO CNV	1	44.5	0.0	59.7	0.0	-0.2	0.0	-59.5	0.0	-15.5	0.0
NO CNV/NC APMP	0										
*DISPLACEMENT											
LESS THAN 151	2	20.9	33.5	43.4	23.0	3.4	5.1	-63.4	5.5	-12.2	4.8
151 - 250	0										
251 - 350	11	27.5	30.9	32.1	27.9	-0.8	8.7	-24.0	32.6	-3.6	9.5
MORE THAN 350	2	39.6	40.7	34.2	40.1	-1.1	3.5	9.2	11.4	-0.2	4.4
*INERTIA WEIGHT											
1800 - 2799	1	-2.8	0.0	27.2	0.0	7.0	0.0	-67.3	0.0	-8.8	0.0
2800 - 3799	2	27.3	24.4	49.0	15.2	2.0	3.1	-46.1	19.0	-10.5	7.2
3800 - 4799	11	32.8	32.5	34.3	29.4	-1.0	8.6	-19.5	34.7	-3.4	9.5
4800 - 5799	1	10.8	0.0	5.9	0.0	-3.6	0.0	1.1	0.0	2.9	0.0
ALL VEHICLES	15	28.2	30.1	33.9	26.9	-0.3	7.7	-24.9	33.9	-4.3	8.9

1975 VEHICLES

DATA SET 4

20 VEHICLES


BASELINE
MANU. TUNE-UP
MANU. TUNE-UP
PARA. ADJ.
DEVICE

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	2.25	0.0	68.40	0.0	417.9	0.0	2.01	0.00	16.7	0.0
CHRYSLER	1	2.68	0.0	40.41	0.0	659.7	0.0	3.03	0.00	12.1	0.0
FORD MOTOR CO.	1	1.00	0.0	11.83	0.0	702.0	0.0	0.85	0.00	12.3	0.0
GENERAL MOTORS	15	2.17	0.7	54.64	28.9	612.2	89.9	1.37	.42	12.8	2.0
IMPORTS	2	1.19	0.7	26.53	22.3	347.9	12.5	1.61	.28	22.6	1.4
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	20	2.04	0.7	49.66	28.6	582.9	122.2	1.48	.55	13.9	3.5
*VEHICLE TYPE											
AUTOMOBILE	18	2.02	0.7	51.56	28.8	580.7	128.1	1.46	.58	14.0	3.7
TRUCK	2	2.26	1.1	32.55	27.0	602.9	63.6	1.72	.16	13.4	0.4
*VEHICLE OWNER											
GSA	1	3.03	0.0	51.64	0.0	557.9	0.0	1.61	0.00	13.7	0.0
PRIVATE OWNER	19	1.99	0.7	49.56	29.4	584.2	125.4	1.48	.57	14.0	3.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	1.53	0.7	19.26	12.0	664.5	85.2	1.77	1.01	12.8	1.7
CNV/NO A.PMP	12	2.38	0.6	64.62	22.8	601.8	85.0	1.30	.22	12.7	2.0
A.PMP/NO CNV	2	1.19	0.7	26.53	22.3	347.9	12.5	1.61	.28	22.6	1.4
NO CNV/NO APMP	1	2.25	0.0	68.40	0.0	417.9	0.0	2.01	0.00	16.7	0.0
*DISPLACEMENT											
LESS THAN 151	3	1.13	0.5	23.37	16.7	411.9	111.1	1.30	.57	20.3	4.2
151 - 250	2	2.98	0.1	54.53	4.1	473.9	118.8	1.41	.28	15.9	3.1
251 - 350	13	2.19	0.6	57.85	29.8	614.2	74.5	1.48	.58	12.6	1.5
MORE THAN 350	2	1.49	0.0	30.99	24.6	745.1	39.2	1.88	.78	11.1	0.0
*INERTIA WEIGHT											
1800 - 2799	1	1.00	0.0	17.04	0.0	539.8	0.0	0.68	0.00	15.6	0.0
2800 - 3799	5	1.71	0.9	38.14	26.2	441.1	149.0	1.46	.46	18.5	4.4
3800 - 4799	13	2.29	0.6	56.70	29.5	630.4	61.4	1.57	.59	12.3	1.0
4800 - 5799	1	1.50	0.0	48.41	0.0	717.4	0.0	1.33	0.00	11.1	0.0
ALL VEHICLES	20	2.04	0.7	49.66	28.6	582.9	122.2	1.48	.55	13.9	3.5

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	2.13	0.0	60.40	0.0	413.7	0.0	1.35	0.00	17.2	0.0
CHRYSLER	1	3.76	0.0	48.03	0.0	790.8	0.0	2.66	0.00	10.1	0.0
FORD MOTOR CO.	1	1.33	0.0	16.81	0.0	694.7	0.0	2.21	0.00	12.2	0.0
GENERAL MOTORS	15	1.94	0.5	45.44	21.3	621.5	98.4	1.28	.42	13.0	2.1
IMPORTS	2	1.32	1.0	33.49	35.1	348.1	0.5	1.47	.01	22.1	3.2
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	20	1.95	0.7	43.69	21.6	595.9	135.5	1.42	.51	13.9	3.6
*VEHICLE TYPE											
AUTOMOBILE	18	1.95	0.7	46.04	21.4	596.1	141.5	1.38	.51	13.9	3.8
TRUCK	2	1.94	0.9	22.55	9.8	593.9	92.2	1.77	.52	14.1	1.6
*VEHICLE OWNER											
GSA	1	2.56	0.0	29.50	0.0	528.7	0.0	2.14	0.00	15.2	0.0
PRIVATE OWNER	19	1.91	0.7	44.44	21.9	599.4	138.3	1.38	.49	13.8	3.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	2.03	1.0	21.81	15.7	683.4	101.6	1.80	.77	12.5	2.0
CNV/NO A.PMP	12	2.00	0.6	53.12	15.6	615.9	99.4	1.26	.37	12.9	2.2
A.PMP/NO CNV	2	1.32	1.0	33.49	35.1	348.1	0.5	1.47	.01	22.1	3.2
NO CNV/NO APMP	1	2.13	0.0	60.40	0.0	413.7	0.0	1.35	0.00	17.2	0.0
*DISPLACEMENT											
LESS THAN 151	3	1.52	0.8	29.70	25.7	407.2	102.2	1.21	.45	20.0	4.4
151 - 250	2	2.85	0.4	44.01	20.5	449.8	111.5	1.69	.64	17.0	2.5
251 - 350	13	1.96	0.7	50.27	19.4	642.5	93.4	1.36	.53	12.4	1.7
MORE THAN 350	2	1.60	0.3	21.61	21.4	722.2	35.0	1.88	.22	11.7	0.0
*INERTIA WEIGHT											
1800 - 2799	1	1.91	0.0	22.13	0.0	525.2	0.0	0.69	0.00	15.7	0.0
2800 - 3799	5	1.85	1.0	40.54	25.6	435.1	147.5	1.55	.38	18.5	4.4
3800 - 4799	13	2.03	0.7	47.09	21.5	655.3	77.2	1.40	.55	12.2	1.3
4800 - 5799	1	1.40	0.0	36.75	0.0	697.5	0.0	1.72	0.00	11.7	0.0
ALL VEHICLES	20	1.95	0.7	43.69	21.6	595.9	135.5	1.42	.51	13.9	3.6

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	2.13	0.0	60.40	0.0	413.7	0.0	1.35	0.00	17.2	0.0
CHRYSLER	1	3.76	0.0	48.03	0.0	790.8	0.0	2.66	0.00	10.1	0.0
FORD MOTOR CO.	1	1.33	0.0	16.81	0.0	694.7	0.0	2.21	0.00	12.2	0.0
GENERAL MOTORS	15	1.94	0.5	45.44	21.3	621.5	98.4	1.28	.42	13.0	2.1
IMPORTS	2	1.32	1.0	33.49	35.1	348.1	0.5	1.47	.01	22.1	3.2
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	20	1.95	0.7	43.69	21.6	595.9	135.5	1.42	.51	13.9	3.6
*VEHICLE TYPE											
AUTOMOBILE	18	1.95	0.7	46.04	21.4	596.1	141.5	1.38	.51	13.9	3.8
TRUCK	2	1.94	0.9	22.55	9.8	593.9	92.2	1.77	.52	14.1	1.6
*VEHICLE OWNER											
GSA	1	2.56	0.0	29.50	0.0	528.7	0.0	2.14	0.00	15.2	0.0
PRIVATE OWNER	19	1.91	0.7	44.44	21.9	599.4	138.3	1.38	.49	13.8	3.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	2.03	1.0	21.81	15.7	683.4	101.6	1.80	.77	12.5	2.0
CNV/NO A.PMP	12	2.00	0.6	53.12	15.6	615.9	99.4	1.26	.37	12.9	2.2
A.PMP/NO CNV	2	1.32	1.0	33.49	35.1	348.1	0.5	1.47	.01	22.1	3.2
NO CNV/NO APMP	1	2.13	0.0	60.40	0.0	413.7	0.0	1.35	0.00	17.2	0.0
*DISPLACEMENT											
LESS THAN 151	3	1.52	0.8	29.70	25.7	407.2	102.2	1.21	.45	20.0	4.4
151 - 250	2	2.85	0.4	44.01	20.5	449.8	111.5	1.69	.64	17.0	2.5
251 - 350	13	1.96	0.7	50.27	19.4	642.5	93.4	1.36	.53	12.4	1.7
MORE THAN 350	2	1.60	0.3	21.61	21.4	722.2	35.0	1.88	.22	11.7	0.0
*INERTIA WEIGHT											
1800 - 2799	1	1.91	0.0	22.13	0.0	525.2	0.0	0.69	0.00	15.7	0.0
2800 - 3799	5	1.85	1.0	40.54	25.6	435.1	147.5	1.55	.38	18.5	4.4
3800 - 4799	13	2.03	0.7	47.09	21.5	655.3	77.2	1.40	.55	12.2	1.3
4800 - 5799	1	1.40	0.0	36.75	0.0	697.5	0.0	1.72	0.00	11.7	0.0
ALL VEHICLES	20	1.95	0.7	43.69	21.6	595.9	135.5	1.42	.51	13.9	3.6

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	0.12	0.0	8.00	0.0	4.2	0.0	0.66	0.00	-0.6	0.0
CHRYSLER	1	-1.08	0.0	-7.62	0.0	-131.1	0.0	0.37	0.00	2.0	0.0
FORD MOTOR CO.	1	-0.33	0.0	-4.98	0.0	7.3	0.0	-1.36	0.00	0.0	0.0
GENERAL MOTORS	15	0.23	0.5	9.20	21.2	-9.3	34.9	0.09	.31	-0.1	0.7
IMPORTS	2	-0.14	0.3	-6.96	12.8	-0.3	12.2	0.15	.26	0.5	1.7
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	20	0.10	0.5	5.97	19.5	-13.0	41.3	0.06	.45	0.0	0.9
*VEHICLE TYPE											
AUTOMOBILE	18	0.07	0.6	5.52	20.2	-15.4	42.3	0.08	.45	0.1	0.9
TRUCK	2	0.32	0.2	10.00	17.2	9.0	28.6	-0.05	.68	-0.6	1.3
*VEHICLE OWNER											
GSA	1	0.47	0.0	22.14	0.0	29.2	0.0	-0.53	0.00	-1.5	0.0
PRIVATE OWNER	19	0.08	0.6	5.12	19.7	-15.2	41.1	0.10	.44	0.1	0.8
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	-0.49	0.5	-2.55	5.7	-18.9	64.2	-0.03	.76	0.3	1.0
CNV/NO A.PMP	12	0.38	0.4	11.51	23.1	-14.1	36.8	0.04	.31	-0.1	0.8
A.PMP/NO CNV	2	-0.14	0.3	-6.96	12.8	-0.3	12.2	0.15	.26	0.5	1.7
NO CNV/NO APMP	1	0.12	0.0	8.00	0.0	4.2	0.0	0.66	0.00	-0.6	0.0
*DISPLACEMENT											
LESS THAN 151	3	-0.39	0.5	-6.34	9.1	4.7	12.2	0.09	.21	0.3	1.3
151 - 250	2	0.13	0.5	10.52	16.4	24.0	7.3	-0.28	.36	-1.1	0.6
251 - 350	13	0.24	0.6	7.59	22.8	-28.3	43.5	0.12	.51	0.2	0.8
MORE THAN 350	2	-0.11	0.3	9.38	3.2	22.9	4.2	0.01	.57	-0.5	0.0
*INERTIA WEIGHT											
1800 - 2799	1	-0.91	0.0	-5.09	0.0	14.6	0.0	-0.01	0.00	-0.1	0.0
2800 - 3799	5	-0.14	0.2	-2.40	9.0	6.0	10.0	-0.09	.77	-0.0	1.0
3800 - 4799	13	0.26	0.6	9.60	22.8	-24.9	46.9	0.16	.30	0.1	0.9
4800 - 5799	1	0.10	0.0	11.66	0.0	19.9	0.0	-0.39	0.00	-0.6	0.0
ALL VEHICLES	20	0.10	0.5	5.97	19.5	-13.0	41.3	0.06	.45	0.0	0.9

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--MANU. TUNE-UP)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	5.3	0.0	11.7	0.0	1.0	0.0	32.8	0.0	-3.3	0.0
CHRYSLER	1	-40.3	0.0	-18.9	0.0	-19.9	0.0	12.2	0.0	16.7	0.0
FORD MOTOR CO.	1	-33.0	0.0	-42.1	0.0	1.0	0.0	-160.0	0.0	0.2	0.0
GENERAL MOTORS	15	4.9	31.2	11.8	26.4	-1.4	5.8	4.9	20.7	-1.0	5.7
IMPORTS	2	-4.7	21.4	-9.2	40.6	-0.1	3.5	7.7	14.9	2.3	7.9
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	20	-0.2	30.1	5.5	28.4	-2.0	6.6	-1.3	42.0	0.1	6.6
*VEHICLE TYPE											
AUTOMOBILE	18	-1.7	31.4	4.6	28.2	-2.4	6.8	-0.9	43.3	0.7	6.4
TRUCK	2	13.4	3.0	13.5	41.5	1.8	4.9	-4.7	39.9	-4.6	9.4
*VEHICLE OWNER											
GSA	1	15.5	0.0	42.9	0.0	5.2	0.0	-32.9	0.0	-11.3	0.0
PRIVATE OWNER	19	-1.0	30.7	3.5	27.8	-2.3	6.6	0.4	42.5	0.7	6.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	-34.8	37.1	-10.9	36.8	-2.9	9.7	-21.8	77.8	2.7	8.2
CNV/NO A.PMP	12	14.5	15.3	14.2	22.5	-2.1	6.2	2.9	22.2	-1.0	6.2
A.PMP/NO CNV	2	-4.7	21.4	-9.2	40.6	-0.1	3.5	7.7	14.9	2.3	7.9
NO CNV/NO APMP	1	5.3	0.0	11.7	0.0	1.0	0.0	32.8	0.0	-3.3	0.0
*DISPLACEMENT											
LESS THAN 151	3	-33.5	52.1	-16.1	31.1	0.8	3.0	4.6	11.8	1.3	5.8
151 - 250	2	4.2	16.0	20.5	31.7	5.0	0.3	-17.3	22.1	-7.4	5.5
251 - 350	13	7.9	23.9	3.1	25.7	-4.5	6.8	0.6	50.8	1.8	6.6
MORE THAN 350	2	-7.1	19.4	38.2	19.9	3.1	0.4	-6.3	32.6	-4.9	0.3
*INERTIA WEIGHT											
1800 - 2799	1	-91.0	0.0	-29.9	0.0	2.7	0.0	-1.5	0.0	-0.6	0.0
2800 - 3799	5	-8.8	17.9	-10.1	28.4	1.3	2.7	-22.7	78.2	-0.4	4.9
3800 - 4799	13	9.6	22.4	12.8	26.8	-4.0	7.4	9.1	19.5	0.8	7.6
4800 - 5799	1	6.7	0.0	24.1	0.0	2.8	0.0	-29.3	0.0	-5.0	0.0
ALL VEHICLES	20	-0.2	30.1	5.5	28.4	-2.0	6.6	-1.3	42.0	0.1	6.6

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	1.36	0.0	10.52	0.0	457.3	0.0	3.82	0.00	18.6	0.0
CHRYSLER	1	2.27	0.0	32.30	0.0	600.2	0.0	2.76	0.00	13.5	0.0
FORD MOTOR CO.	1	0.98	0.0	6.27	0.0	617.8	0.0	3.90	0.00	14.1	0.0
GENERAL MOTORS	15	1.45	0.7	25.26	15.6	603.6	101.2	2.00	.64	14.1	2.5
IMPORTS	2	0.96	0.4	15.42	14.5	345.3	15.1	1.98	.08	23.9	2.5
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	20	1.41	0.7	22.94	15.1	571.0	120.8	2.23	.80	15.2	3.9
*VEHICLE TYPE											
AUTOMOBILE	18	1.38	0.7	23.88	15.6	572.9	125.3	2.13	.71	15.2	4.1
TRUCK	2	1.64	0.1	14.42	3.9	554.2	99.6	3.07	1.49	15.4	2.5
*VEHICLE OWNER											
GSA	1	1.74	0.0	17.20	0.0	483.8	0.0	4.13	0.00	17.2	0.0
PRIVATE OWNER	19	1.39	0.7	23.24	15.4	575.6	122.3	2.13	.69	15.1	4.0
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	1.43	0.7	13.42	11.1	601.5	124.7	2.52	.87	14.7	3.4
CNV/NO A.PMP	12	1.48	0.8	29.19	14.8	605.4	86.0	2.01	.71	13.8	2.0
A.PMP/NO CNV	2	0.96	0.4	15.42	14.5	345.3	15.1	1.98	.08	23.9	2.5
NO CNV/NO APMP	1	1.36	0.0	10.52	0.0	457.3	0.0	3.82	0.00	18.6	0.0
*DISPLACEMENT											
LESS THAN 151	3	1.25	0.6	14.47	10.4	366.3	37.9	1.87	.21	22.8	2.7
151 - 250	2	2.44	1.0	32.63	21.8	445.2	54.6	3.01	1.58	17.6	0.6
251 - 350	13	1.40	0.6	25.24	15.2	617.8	61.9	2.21	.81	13.6	1.7
MORE THAN 350	2	0.71	0.3	10.99	9.5	699.9	80.0	2.06	.34	12.4	1.1
*INERTIA WEIGHT											
1800 - 2799	1	1.82	0.0	12.58	0.0	408.2	0.0	1.64	0.00	20.5	0.0
2800 - 3799	5	1.48	1.0	19.14	18.1	434.5	113.0	2.72	1.05	19.7	4.4
3800 - 4799	13	1.39	0.6	25.60	15.0	630.5	67.9	2.11	.71	13.3	1.5
4800 - 5799	1	0.91	0.0	17.68	0.0	643.4	0.0	1.82	0.00	13.2	0.0
ALL VEHICLES	20	1.41	0.7	22.94	15.1	571.0	120.8	2.23	.80	15.2	3.9

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	0.89	0.0	57.88	0.0	-39.4	0.0	-1.81	0.00	-1.9	0.0
CHRYSLER	1	0.41	0.0	8.11	0.0	59.5	0.0	0.27	0.00	-1.4	0.0
FORD MOTOR CO.	1	0.02	0.0	5.56	0.0	84.2	0.0	-3.05	0.00	-1.8	0.0
GENERAL MOTORS	15	0.72	0.7	29.38	23.9	8.5	58.1	-0.63	.61	-1.2	1.5
IMPORTS	2	0.22	0.4	11.11	7.8	2.6	27.6	-0.37	.35	-1.3	1.1
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	20	0.63	0.7	26.72	23.4	11.9	55.5	-0.74	.84	-1.3	1.3
*VEHICLE TYPE											
AUTOMOBILE	18	0.63	0.7	27.68	23.9	7.8	56.4	-0.67	.76	-1.2	1.3
TRUCK	2	0.62	0.9	18.13	23.1	48.7	35.9	-1.36	1.65	-2.0	2.1
*VEHICLE OWNER											
GSA	1	1.29	0.0	34.44	0.0	74.1	0.0	-2.52	0.00	-3.5	0.0
PRIVATE OWNER	19	0.60	0.7	26.32	24.0	8.6	55.0	-0.65	.74	-1.2	1.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	0.11	0.7	5.84	3.0	63.0	47.2	-0.76	1.37	-1.8	1.8
CNV/NO A.PMP	12	0.90	0.6	35.43	22.9	-3.6	52.3	-0.71	.62	-1.0	1.2
A.PMP/NO CNV	2	0.22	0.4	11.11	7.8	2.6	27.6	-0.37	.35	-1.3	1.1
NO CNV/NO APMP	1	0.89	0.0	57.88	0.0	-39.4	0.0	-1.81	0.00	-1.9	0.0
*DISPLACEMENT											
LESS THAN 151	3	-0.12	0.7	8.90	6.7	45.6	77.0	-0.57	.42	-2.5	2.2
151 - 250	2	0.54	1.1	21.90	17.7	28.7	64.2	-1.60	1.31	-1.7	2.5
251 - 350	13	0.80	0.6	32.62	26.2	-3.6	51.2	-0.74	.86	-1.0	0.9
MORE THAN 350	2	0.78	0.3	19.99	15.2	45.2	40.7	-0.18	.45	-1.3	1.1
*INERTIA WEIGHT											
1800 - 2799	1	-0.82	0.0	4.46	0.0	131.6	0.0	-0.96	0.00	-4.9	0.0
2800 - 3799	5	0.23	0.4	19.01	22.2	6.7	48.7	-1.25	1.18	-1.3	1.0
3800 - 4799	13	0.90	0.6	31.10	24.8	-0.1	49.0	-0.55	.70	-1.0	1.1
4800 - 5799	1	0.59	0.0	30.73	0.0	74.0	0.0	-0.49	0.00	-2.1	0.0
ALL VEHICLES	20	0.63	0.7	26.72	23.4	11.9	55.5	-0.74	.84	-1.3	1.3

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE--TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	39.6	0.0	84.6	0.0	-9.4	0.0	-90.0	0.0	-11.3	0.0
CHRYSLER	1	15.3	0.0	20.1	0.0	9.0	0.0	8.9	0.0	-11.2	0.0
FORD MOTOR CO.	1	2.0	0.0	47.0	0.0	12.0	0.0	-358.8	0.0	-14.8	0.0
GENERAL MOTORS	15	29.5	39.3	50.2	23.1	1.3	10.1	-53.1	47.1	-9.5	10.4
IMPORTS	2	11.3	24.5	45.7	9.1	0.6	7.9	-25.1	26.2	-5.8	4.4
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	20	26.1	35.3	49.8	22.6	1.6	9.7	-64.3	82.5	-9.6	9.2
*VEHICLE TYPE											
AUTOMOBILE	18	26.8	36.4	50.9	21.8	0.8	9.8	-62.2	83.3	-9.0	8.8
TRUCK	2	19.6	32.5	40.1	37.6	8.4	6.8	-83.5	103.3	-14.8	15.3
*VEHICLE OWNER											
GSA	1	42.6	0.0	66.7	0.0	13.3	0.0	-156.5	0.0	-25.7	0.0
PRIVATE OWNER	19	25.2	36.1	48.9	22.9	1.0	9.5	-59.5	81.8	-8.8	8.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	-0.5	53.1	35.0	22.4	10.2	8.9	-99.1	157.9	-13.1	11.1
CNV/NO A.PMP	12	38.5	23.0	53.7	21.5	-0.9	8.7	-54.2	40.4	-8.6	9.5
A.PMP/NO CNV	2	11.3	24.5	45.7	9.1	0.6	7.9	-25.1	26.2	-5.8	4.4
NO CNV/NO APMP	1	39.6	0.0	84.6	0.0	-9.4	0.0	-90.0	0.0	-11.3	0.0
*DISPLACEMENT											
LESS THAN 151	3	-19.8	56.6	39.2	13.0	8.5	14.8	-63.8	69.5	-14.3	15.1
151 - 250	2	17.9	34.9	41.5	35.6	4.5	12.4	-105.7	71.8	-12.6	18.5
251 - 350	13	33.8	24.3	51.1	24.3	-1.2	8.4	-65.6	93.8	-7.8	7.0
MORE THAN 350	2	52.6	18.7	65.8	3.4	6.2	5.8	-15.6	30.1	-11.4	9.9
*INERTIA WEIGHT											
1800 - 2799	1	-82.0	0.0	26.2	0.0	24.4	0.0	-141.2	0.0	-31.3	0.0
2800 - 3799	5	11.5	21.3	47.9	24.7	-0.1	8.9	-110.8	141.8	-7.4	6.3
3800 - 4799	13	39.0	23.8	51.3	23.2	-0.2	8.2	-42.6	46.1	-8.1	8.4
4800 - 5799	1	39.3	0.0	63.5	0.0	10.3	0.0	-36.8	0.0	-18.4	0.0
ALL VEHICLES	20	26.1	35.3	49.8	22.6	1.6	9.7	-64.3	82.5	-9.6	9.2

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(MANU. TUNE-UP---TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	1.36	0.0	10.52	0.0	457.3	0.0	3.82	0.00	18.6	0.0
CHRYSLER	1	2.27	0.0	32.30	0.0	600.2	0.0	2.76	0.00	13.5	0.0
FORD MOTOR CO.	1	0.98	0.0	6.27	0.0	617.8	0.0	3.90	0.00	14.1	0.0
GENERAL MOTORS	15	1.45	0.7	25.26	15.6	603.6	101.2	2.00	.64	14.1	2.5
IMPORTS	2	0.96	0.4	15.42	14.5	345.3	15.1	1.98	.08	23.9	2.5
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	20	1.41	0.7	22.94	15.1	571.0	120.8	2.23	.80	15.2	3.9
*VEHICLE TYPE											
AUTOMOBILE	18	1.38	0.7	23.88	15.6	572.9	125.3	2.13	.71	15.2	4.1
TRUCK	2	1.64	0.1	14.42	3.9	554.2	99.6	3.07	1.49	15.4	2.5
*VEHICLE OWNER											
GSA	1	1.74	0.0	17.20	0.0	483.8	0.0	4.13	0.00	17.2	0.0
PRIVATE OWNER	19	1.39	0.7	23.24	15.4	575.6	122.3	2.13	.69	15.1	4.0
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	1.43	0.7	13.42	11.1	601.5	124.7	2.52	.87	14.7	3.4
CNV/NO A.PMP	12	1.48	0.8	29.19	14.8	605.4	86.0	2.01	.71	13.8	2.0
A.PMP/NO CNV	2	0.96	0.4	15.42	14.5	345.3	15.1	1.98	.08	23.9	2.5
NO CNV/NO APMP	1	1.36	0.0	10.52	0.0	457.3	0.0	3.82	0.00	18.6	0.0
*DISPLACEMENT											
LESS THAN 151	3	1.25	0.6	14.47	10.4	366.3	37.9	1.87	.21	22.8	2.7
151 - 250	2	2.44	1.0	32.63	21.8	445.2	54.6	3.01	1.58	17.6	0.6
251 - 350	13	1.40	0.6	25.24	15.2	617.8	61.9	2.21	.81	13.6	1.7
MORE THAN 350	2	0.71	0.3	10.99	9.5	699.9	80.0	2.06	.34	12.4	1.1
*INERTIA WEIGHT											
1800 - 2799	1	1.82	0.0	12.58	0.0	408.2	0.0	1.64	0.00	20.5	0.0
2800 - 3799	5	1.48	1.0	19.14	18.1	434.5	113.0	2.72	1.05	19.7	4.4
3800 - 4799	13	1.39	0.6	25.60	15.0	630.5	67.9	2.11	.71	13.3	1.5
4800 - 5799	1	0.91	0.0	17.68	0.0	643.4	0.0	1.82	0.00	13.2	0.0
ALL VEHICLES	20	1.41	0.7	22.94	15.1	571.0	120.8	2.23	.80	15.2	3.9

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(MANU. TUNE-UP---TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	0.77	0.0	49.88	0.0	-43.6	0.0	-2.47	0.00	-1.3	0.0
CHRYSLER	1	1.49	0.0	15.73	0.0	190.6	0.0	-0.10	0.00	-3.4	0.0
FORD MOTOR CO.	1	0.35	0.0	10.54	0.0	76.9	0.0	-1.69	0.00	-1.8	0.0
GENERAL MOTORS	15	0.49	0.6	20.18	13.6	17.9	47.0	-0.72	.48	-1.1	1.3
IMPORTS	2	0.36	0.7	18.07	20.6	2.8	15.3	-0.52	.09	-1.8	0.7
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	20	0.54	0.6	20.75	14.5	24.9	59.7	-0.81	.63	-1.3	1.3
*VEHICLE TYPE											
AUTOMOBILE	18	0.56	0.6	22.16	14.6	23.2	62.9	-0.75	.60	-1.3	1.3
TRUCK	2	0.30	0.7	8.13	5.9	39.7	7.4	-1.31	.97	-1.4	0.8
*VEHICLE OWNER											
GSA	1	0.82	0.0	12.30	0.0	44.9	0.0	-1.99	0.00	-2.0	0.0
PRIVATE OWNER	19	0.52	0.6	21.20	14.8	23.8	61.1	-0.74	.58	-1.3	1.3
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	0.60	0.8	8.39	5.4	81.9	76.9	-0.73	.63	-2.2	1.9
CNV/NO A.PMP	12	0.52	0.5	23.93	12.5	10.5	42.0	-0.75	.52	-0.9	0.9
A.PMP/NO CNV	2	0.36	0.7	18.07	20.6	2.8	15.3	-0.52	.09	-1.8	0.7
NO CNV/NO APMP	1	0.77	0.0	49.88	0.0	-43.6	0.0	-2.47	0.00	-1.3	0.0
*DISPLACEMENT											
LESS THAN 151	3	0.27	0.5	15.23	15.4	40.9	66.8	-0.66	.26	-2.8	1.8
151 - 250	2	0.41	0.6	11.38	1.3	4.6	56.9	-1.32	.95	-0.6	1.9
251 - 350	13	0.56	0.6	25.03	14.9	24.7	65.8	-0.86	.65	-1.2	1.0
MORE THAN 350	2	0.89	0.6	10.61	12.0	22.3	45.0	-0.18	.12	-0.7	1.1
*INERTIA WEIGHT											
1800 - 2799	1	0.09	0.0	9.55	0.0	117.0	0.0	-0.95	0.00	-4.8	0.0
2800 - 3799	5	0.37	0.4	21.41	19.3	0.7	48.3	-1.17	.88	-1.2	1.2
3800 - 4799	13	0.64	0.6	21.49	14.1	24.9	62.0	-0.71	.51	-1.1	1.1
4800 - 5799	1	0.49	0.0	19.07	0.0	54.1	0.0	-0.10	0.00	-1.5	0.0
ALL VEHICLES	20	0.54	0.6	20.75	14.5	24.9	59.7	-0.81	.63	-1.3	1.3

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(MANU. TUNE-UP---TUNEUP/PARADJ/DEV)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	36.2	0.0	82.6	0.0	-10.5	0.0	-183.0	0.0	-7.8	0.0
CHRYSLER	1	39.6	0.0	32.8	0.0	24.1	0.0	-3.8	0.0	-33.4	0.0
FORD MOTOR CO.	1	26.3	0.0	62.7	0.0	11.1	0.0	-76.5	0.0	-15.0	0.0
GENERAL MOTORS	15	25.5	29.6	43.1	18.4	2.6	8.4	-63.3	42.0	-8.5	9.1
IMPORTS	2	11.1	41.6	48.3	10.9	0.8	4.4	-35.1	6.6	-8.5	4.3
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	20	25.4	27.9	46.0	18.9	3.3	9.5	-64.2	48.3	-10.0	9.7
*VEHICLE TYPE											
AUTOMOBILE	18	27.3	27.5	47.4	19.3	2.9	10.0	-63.7	50.4	-10.1	10.2
TRUCK	2	7.7	34.3	33.5	11.6	6.9	2.3	-68.6	34.4	-9.6	4.8
*VEHICLE OWNER											
GSA	1	32.0	0.0	41.7	0.0	8.5	0.0	-93.0	0.0	-12.9	0.0
PRIVATE OWNER	19	25.0	28.6	46.3	19.4	3.0	9.7	-62.7	49.2	-9.9	10.0
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	25.2	33.7	39.5	14.5	12.3	10.9	-55.1	54.3	-17.0	14.8
CNV/NO A.PMP	12	26.9	26.8	45.4	19.7	1.1	7.1	-62.9	38.5	-7.6	7.3
A.PMP/NO CNV	2	11.1	41.6	48.3	10.9	0.8	4.4	-35.1	6.6	-8.5	4.3
NO CNV/NO APMP	1	36.2	0.0	82.6	0.0	-10.5	0.0	-183.0	0.0	-7.8	0.0
*DISPLACEMENT											
LESS THAN 151	3	9.0	29.6	46.6	8.2	8.0	12.8	-69.3	59.4	-15.8	13.1
151 - 250	2	16.2	22.4	29.8	16.8	-0.6	12.8	-72.7	28.7	-4.5	11.9
251 - 350	13	26.3	27.8	49.0	21.5	2.8	9.5	-70.1	49.8	-10.1	9.3
MORE THAN 350	2	53.3	25.9	42.6	13.1	3.2	6.4	-9.6	5.3	-6.2	9.2
*INERTIA WEIGHT											
1800 - 2799	1	4.7	0.0	43.2	0.0	22.3	0.0	-137.7	0.0	-30.5	0.0
2800 - 3799	5	17.0	25.2	51.9	24.3	-1.5	9.2	-76.4	62.0	-7.2	7.2
3800 - 4799	13	29.4	30.4	43.6	18.6	3.3	8.6	-58.3	39.8	-9.3	9.7
4800 - 5799	1	35.0	0.0	51.9	0.0	7.8	0.0	-5.8	0.0	-12.8	0.0
ALL VEHICLES	20	25.4	27.9	46.0	18.9	3.3	9.5	-64.2	48.3	-10.0	9.7

APPENDIX I

TABLES OF TEST RESULTS

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1973-1974 PAGE I-10
1975 PAGE I-14
STATISICAL SUMMARY PAGE I-18

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(ALL VEHICLES-HOT START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	9	4.33	1.4	80.59	24.7	483.3	128.2	1.98	.77	14.9	3.3
CHRYSLER	18	3.94	1.5	78.25	26.6	569.6	121.5	2.52	.78	13.0	2.7
FORD MOTOR CO.	7	4.84	3.4	70.89	36.5	502.6	139.0	2.40	1.57	14.5	2.5
GENERAL MOTORS	21	2.97	2.6	59.28	38.2	549.2	110.3	1.54	.66	14.0	2.4
IMPORTS	5	2.73	1.7	48.84	26.3	313.9	55.2	1.36	.56	22.5	2.8
***MODEL YEAR**											
1968	2	6.18	0.6	129.60	37.5	404.4	96.5	1.91	.43	14.6	3.7
1969	4	6.86	3.4	103.75	17.1	447.1	72.6	2.51	1.38	14.1	1.3
1970	8	5.63	2.8	74.66	23.6	432.5	73.9	2.43	.80	16.1	2.7
1971	3	5.68	1.5	102.26	45.1	575.1	101.6	2.69	1.18	11.8	0.5
1972	1	2.80	0.0	41.48	0.0	385.2	0.0	2.65	0.00	19.3	0.0
1973	14	3.86	1.2	76.00	21.5	612.6	114.0	2.47	.91	12.3	2.6
1974	6	3.65	0.6	74.10	12.6	358.0	110.5	1.35	.63	19.1	4.4
1975	22	1.77	0.8	45.03	28.1	560.5	115.1	1.47	.70	14.5	3.5
***VEHICLE TYPE**											
AUTOMOBILE	52	3.71	2.4	69.36	32.9	505.4	131.2	1.95	.94	14.9	3.7
TRUCK	8	3.38	1.7	64.03	34.2	617.9	105.3	2.24	.96	12.6	2.3
***VEHICLE OWNER**											
GSA	21	3.77	1.2	72.79	24.2	541.8	145.1	2.26	.95	14.0	3.3
PRIVATE OWNER	39	3.60	2.7	66.43	36.7	508.9	126.4	1.84	.92	14.9	3.8
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	5	1.15	0.6	13.23	10.8	648.2	82.1	1.73	1.02	13.4	1.8
CNV/NO A.PMP	13	1.97	0.6	56.89	23.3	581.4	78.1	1.18	.23	13.4	2.0
A.PMP/NO CNV	13	4.23	2.8	71.58	32.0	485.9	152.2	2.25	.89	15.7	4.5
NO CNV/NO APMP	29	4.60	1.9	82.17	27.9	486.5	131.7	2.27	.96	14.9	3.8
***DISPLACEMENT**											
LESS THAN 151	8	2.54	1.6	49.46	30.7	353.2	84.8	1.35	.74	20.7	3.4
151 - 250	13	3.73	1.5	67.33	23.0	402.7	70.4	1.94	.81	17.2	1.7
251 - 350	23	3.87	3.0	68.40	31.5	559.7	80.4	1.95	1.01	13.2	1.5
MORE THAN 350	16	3.87	1.9	79.69	39.9	643.1	85.9	2.40	.91	11.4	0.9
***INERTIA WEIGHT**											
1800 - 2799	6	3.01	1.4	50.45	21.8	369.4	102.5	1.52	.89	19.8	3.5
2800 - 3799	21	4.45	2.9	72.28	31.1	423.3	97.3	1.95	.86	16.7	3.3
3800 - 4799	32	3.35	1.9	70.34	35.5	607.0	79.7	2.12	1.01	12.3	1.4
4800 - 5799	1	1.29	0.0	47.60	0.0	691.3	0.0	1.26	0.00	11.5	0.0
ALL VEHICLES	60	3.66	2.3	68.65	32.8	520.4	132.9	1.99	.94	14.6	3.6

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(ALL VEHICLES-HOT START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	9	3.75	1.1	34.48	21.6	503.7	82.1	2.56	1.05	16.0	2.7
CHRYSLER	18	3.46	1.5	35.53	16.9	539.7	91.2	3.40	1.07	14.9	2.4
FORD MOTOR CO.	7	3.72	1.9	34.56	25.3	493.7	118.5	2.89	1.00	16.4	3.2
GENERAL MOTORS	21	2.22	2.5	24.74	14.8	551.3	109.9	2.10	.85	15.3	2.9
IMPORTS	5	2.63	1.9	29.15	16.9	315.2	51.9	1.96	.75	24.5	3.9
*MODEL YEAR											
1968	2	5.26	0.7	50.87	10.3	516.1	117.6	2.35	1.90	14.7	2.5
1969	4	5.47	1.5	51.78	10.1	486.7	47.4	3.07	.82	15.3	1.8
1970	8	4.85	2.2	30.81	21.2	436.7	67.5	2.21	.73	18.1	2.5
1971	3	3.52	0.8	23.24	12.0	607.5	77.2	2.39	1.09	13.7	2.0
1972	1	2.78	0.0	29.99	0.0	384.3	0.0	2.94	0.00	20.2	0.0
1973	14	3.51	1.0	33.30	11.8	568.5	89.3	3.69	1.03	14.3	2.3
1974	6	3.89	2.1	49.91	21.1	356.5	80.8	2.07	.84	20.9	5.3
1975	22	1.13	0.7	19.83	13.4	549.1	111.8	2.25	.92	15.9	3.8
*VEHICLE TYPE											
AUTOMOBILE	52	3.06	2.1	32.01	18.6	507.9	119.0	2.46	1.01	16.4	4.0
TRUCK	8	2.82	1.6	24.09	13.0	556.0	72.2	3.77	.95	14.9	1.9
*VEHICLE OWNER											
GSA	21	3.35	1.1	32.34	13.5	523.3	100.7	3.29	1.04	15.6	2.7
PRIVATE OWNER	39	2.86	2.3	30.20	20.3	509.5	122.4	2.29	.96	16.5	4.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	1.07	0.5	9.64	9.0	582.7	117.3	2.52	.92	15.3	3.5
CNV/NO A.PMP	13	1.05	0.6	24.34	12.8	584.3	79.2	1.94	.79	14.4	2.0
A.PMP/NO CNV	13	3.93	2.5	34.75	18.2	470.2	118.2	2.78	1.17	17.4	4.3
NO CNV/NO APMP	29	3.86	1.4	35.88	18.3	490.9	111.5	2.91	1.11	16.6	4.0
*DISPLACEMENT											
LESS THAN 151	8	2.50	1.5	31.50	20.8	340.4	53.3	1.96	.73	22.8	3.9
151 - 250	13	3.46	2.2	34.16	16.2	417.9	52.4	2.60	1.09	18.5	1.7
251 - 350	23	2.86	2.4	31.14	21.8	557.4	72.2	2.48	1.06	14.6	1.9
MORE THAN 350	16	3.20	1.5	27.79	12.7	617.7	45.2	3.24	1.08	13.3	0.9
*INERTIA WEIGHT											
1800 - 2799	6	3.13	1.3	28.84	14.7	346.1	65.6	2.21	.86	22.5	3.8
2800 - 3799	21	3.78	2.3	36.62	22.9	434.7	76.2	2.49	1.12	18.1	3.2
3800 - 4799	32	2.59	1.8	27.98	14.7	594.7	60.9	2.85	1.10	13.8	1.4
4800 - 5799	1	0.83	0.0	19.58	0.0	623.4	0.0	1.74	0.00	13.5	0.0
ALL VEHICLES	60	3.03	2.0	30.95	18.1	514.3	114.6	2.64	1.09	16.2	3.8

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(ALL VEHICLES-HOT START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	9	0.58	0.6	46.11	12.7	-20.3	56.7	-0.58	.78	-1.0	1.2
CHRYSLER	18	0.48	1.6	42.72	32.1	29.9	61.0	-0.87	.94	-1.9	1.0
FORD MOTOR CO.	7	1.12	2.3	36.33	26.6	8.8	49.4	-0.49	1.34	-2.0	1.7
GENERAL MOTORS	21	0.75	1.3	34.54	29.7	-2.1	58.1	-0.56	.84	-1.4	1.3
IMPORTS	5	0.10	0.3	19.68	11.0	-1.3	19.7	-0.60	.38	-2.0	1.4
***MODEL YEAR**											
1968	2	0.93	0.1	78.73	47.8	-111.8	21.1	-0.43	1.46	-0.1	1.2
1969	4	1.39	2.6	51.97	25.8	-39.6	41.0	-0.57	.77	-1.2	0.8
1970	8	0.78	2.5	43.85	14.7	-4.2	38.5	-0.22	.66	-2.0	1.8
1971	3	2.16	2.2	79.03	52.5	-32.4	59.5	-0.30	1.16	-2.0	2.0
1972	1	0.02	0.0	11.49	0.0	0.9	0.0	-0.29	0.00	-0.8	0.0
1973	14	0.35	0.9	42.70	20.9	44.1	56.9	-1.22	.69	-2.0	1.0
1974	6	-0.24	1.5	24.20	16.8	1.5	40.9	-0.72	.39	-1.8	1.1
1975	22	0.64	0.6	25.20	22.5	11.4	51.1	-0.77	.87	-1.3	1.3
***VEHICLE TYPE**											
AUTOMOBILE	52	0.64	1.5	37.36	27.8	-2.5	52.1	-0.52	.81	-1.5	1.3
TRUCK	8	0.56	1.1	39.94	25.7	61.9	58.3	-1.52	.96	-2.4	1.3
***VEHICLE OWNER**											
GSA	21	0.42	0.8	40.44	19.1	18.5	65.7	-1.03	.88	-1.6	1.3
PRIVATE OWNER	39	0.74	1.7	36.23	31.1	-0.6	51.2	-0.45	.84	-1.6	1.3
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	5	0.08	0.6	3.58	2.5	65.5	41.6	-0.79	1.41	-1.9	1.8
CNV/NO A.PMP	13	0.92	0.6	32.55	21.8	-2.9	47.2	-0.76	.72	-1.0	1.1
A.PMP/NO CNV	13	0.30	1.7	36.83	22.1	15.7	64.2	-0.53	.82	-1.7	1.1
NO CNV/NO APMP	29	0.74	1.6	46.29	29.5	-4.4	55.0	-0.64	.92	-1.7	1.4
***DISPLACEMENT**											
LESS THAN 151	8	0.05	0.4	17.96	11.3	12.8	48.3	-0.61	.35	-2.1	1.7
151 - 250	13	0.27	0.9	33.17	15.0	-15.2	43.3	-0.66	.97	-1.3	1.4
251 - 350	23	1.02	1.8	37.25	26.5	2.3	50.4	-0.53	.91	-1.4	1.2
MORE THAN 350	16	0.66	1.3	51.90	35.2	25.4	74.7	-0.84	1.01	-1.8	1.1
***INERTIA WEIGHT**											
1800 - 2799	6	-0.12	0.4	21.61	12.7	23.4	52.6	-0.68	.35	-2.7	1.7
2800 - 3799	21	0.67	2.0	35.66	23.7	-11.3	47.2	-0.53	1.02	-1.4	1.3
3800 - 4799	32	0.75	1.1	42.36	31.0	12.3	62.0	-0.73	.89	-1.5	1.2
4800 - 5799	1	0.46	0.0	28.02	0.0	67.9	0.0	-0.48	0.00	-2.0	0.0
ALL VEHICLES	60	0.63	1.4	37.70	27.4	6.1	56.9	-0.65	.89	-1.6	1.3

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(ALL VEHICLES-HOT START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	9	13.2	13.3	59.5	16.0	-6.8	12.4	-36.1	54.5	-8.6	10.5
CHRYSLER	18	7.5	32.3	50.0	24.6	3.9	10.0	-42.6	53.5	-15.9	10.5
FORD MOTOR CO.	7	13.0	21.2	51.8	21.5	0.5	9.9	-74.3	141.2	-13.6	12.9
GENERAL MOTORS	21	26.0	49.1	52.3	21.7	-1.0	11.3	-51.1	64.9	-9.7	8.8
IMPORTS	5	9.0	13.2	43.7	11.8	-0.7	5.9	-53.0	36.7	-8.6	5.2
***MODEL YEAR**											
1968	2	15.1	3.8	57.8	20.1	-27.8	1.4	-14.5	73.2	-1.7	8.5
1969	4	12.6	25.3	48.1	18.1	-9.9	10.2	-39.4	41.5	-8.3	5.7
1970	8	8.1	25.2	60.8	16.3	-1.6	9.5	5.8	27.7	-13.7	12.8
1971	3	31.8	35.8	69.5	27.9	-6.6	12.0	0.4	55.2	-16.6	16.9
1972	1	0.7	0.0	27.7	0.0	0.2	0.0	-10.9	0.0	-4.3	0.0
1973	14	5.5	22.9	54.4	17.6	6.4	8.0	-61.2	54.4	-17.4	10.8
1974	6	-2.3	34.8	33.5	23.3	-1.3	8.5	-62.6	32.1	-9.0	3.5
1975	22	28.7	45.9	51.1	21.9	1.5	9.2	-71.3	90.8	-9.5	8.4
***VEHICLE TYPE**											
AUTOMOBILE	52	15.3	36.2	51.3	20.8	-1.6	10.5	-42.3	64.9	-10.4	9.1
TRUCK	8	17.8	32.9	56.0	23.6	9.2	8.2	-94.2	88.3	-20.5	12.4
***VEHICLE OWNER**											
GSA	21	10.5	24.0	54.9	15.5	0.9	12.5	-62.4	68.3	-13.5	11.7
PRIVATE OWNER	39	18.3	40.5	50.3	23.5	-0.8	10.0	-42.1	70.6	-10.8	9.1
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	5	-10.4	81.0	33.6	21.5	10.8	8.2	-107.2	167.7	-13.4	10.9
CNV/NO A.PMP	13	45.5	22.2	55.5	20.3	-0.8	8.1	-66.4	60.9	-8.3	8.5
A.PMP/NO CNV	13	5.8	22.5	50.8	16.9	1.4	10.6	-32.1	47.6	-12.9	10.3
NO CNV/NO APMP	29	11.1	26.4	54.0	22.2	-2.5	11.5	-39.2	52.4	-12.6	10.6
***DISPLACEMENT**											
LESS THAN 151	8	-10.0	55.8	38.5	11.4	1.9	10.1	-63.8	51.0	-10.6	9.3
151 - 250	13	13.2	22.4	50.4	17.5	-4.9	11.2	-48.4	74.2	-8.0	8.5
251 - 350	23	26.5	33.1	51.4	26.1	-0.2	9.4	-44.9	81.1	-11.0	9.9
MORE THAN 350	16	14.7	31.2	60.6	16.0	2.6	12.5	-48.7	61.8	-16.6	10.9
***INERTIA WEIGHT**											
1800 - 2799	6	-23.2	60.1	41.4	17.1	4.2	10.6	-68.3	56.5	-14.4	10.0
2800 - 3799	21	11.3	26.4	49.5	22.7	-4.1	11.0	-43.8	87.7	-9.2	9.0
3800 - 4799	32	25.1	31.1	55.3	20.6	1.2	10.4	-49.5	61.1	-12.8	10.8
4800 - 5799	1	35.7	0.0	58.9	0.0	9.8	0.0	-38.1	0.0	-17.3	0.0
ALL VEHICLES	60	15.6	35.6	51.9	21.0	-0.2	10.8	-49.2	69.9	-11.8	10.1

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	5	4.70	1.6	80.01	28.6	412.9	84.9	1.98	.65	16.5	2.9
CHRYSLER	3	5.88	1.2	116.79	20.0	517.5	23.1	2.24	.71	12.4	0.7
FORD MOTOR CO.	5	5.94	3.4	78.16	27.3	498.0	121.9	3.04	1.37	14.2	2.5
GENERAL MOTORS	5	6.77	3.1	95.71	45.5	412.2	57.6	2.43	.43	15.6	2.9
IMPORTS	0										
*MODEL YEAR											
1968	2	6.18	0.6	129.60	37.5	404.4	96.5	1.91	.43	14.6	3.7
1969	4	6.86	3.4	103.75	17.1	447.1	72.6	2.51	1.38	14.1	1.3
1970	8	5.63	2.8	74.66	23.6	432.5	73.9	2.43	.80	16.1	2.7
1971	3	5.68	1.5	102.26	45.1	575.1	101.6	2.69	1.18	11.8	0.5
1972	1	2.80	0.0	41.48	0.0	385.2	0.0	2.65	0.00	19.3	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	18	5.82	2.5	89.99	33.3	453.8	91.3	2.44	.91	14.9	2.8
TRUCK	0										
*VEHICLE OWNER											
GSA	5	4.31	0.8	76.64	28.2	427.9	147.5	2.35	1.09	16.3	3.1
PRIVATE OWNER	13	6.40	2.7	95.12	34.7	463.7	64.5	2.48	.87	14.4	2.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	6.81	3.6	80.60	35.2	397.1	53.8	2.49	.48	16.5	2.4
NO CNV/NO APMP	14	5.53	2.2	92.67	33.6	470.0	94.6	2.43	1.01	14.5	2.8
*DISPLACEMENT											
LESS THAN 151	1	2.80	0.0	41.48	0.0	385.2	0.0	2.65	0.00	19.3	0.0
151 - 250	6	4.69	1.6	78.70	25.9	367.5	32.7	2.04	.66	17.6	1.2
251 - 350	7	7.16	3.2	91.87	24.0	482.8	51.3	2.69	1.10	13.8	1.6
MORE THAN 350	4	5.91	1.3	115.73	45.6	549.5	97.5	2.57	.99	11.8	0.4
*INERTIA WEIGHT											
1800 - 2799	2	2.97	0.2	45.47	5.6	402.3	24.3	2.46	.27	18.4	1.3
2800 - 3799	10	6.30	3.0	88.59	25.6	414.8	73.9	2.20	.86	15.8	2.4
3800 - 4799	6	5.96	1.4	107.16	37.8	535.9	78.6	2.85	1.07	12.3	0.8
4800 - 5799	0										
ALL VEHICLES	18	5.82	2.5	89.99	33.3	453.8	91.3	2.44	.91	14.9	2.8

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	5	4.04	0.9	42.13	24.2	460.0	59.7	2.00	.80	16.8	2.5
CHRYSLER	3	3.86	1.3	30.28	21.3	545.3	47.0	2.26	.89	14.7	1.1
FORD MOTOR CO.	5	4.51	1.5	34.11	20.9	499.2	119.2	2.99	.74	16.3	3.7
GENERAL MOTORS	5	6.05	2.4	36.60	13.4	449.6	104.1	2.61	1.12	17.4	3.3
IMPORTS	0										
*MODEL YEAR											
1968	2	5.26	0.7	50.87	10.3	516.1	117.6	2.35	1.90	14.7	2.5
1969	4	5.47	1.5	51.78	10.1	486.7	47.4	3.07	.82	15.3	1.8
1970	8	4.85	2.2	30.81	21.2	436.7	67.5	2.21	.73	18.1	2.5
1971	3	3.52	0.8	23.24	12.0	607.5	77.2	2.39	1.09	13.7	2.0
1972	1	2.78	0.0	29.99	0.0	384.3	0.0	2.94	0.00	20.2	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	18	4.70	1.8	36.39	18.8	482.2	90.7	2.49	.91	16.5	2.9
TRUCK	0										
*VEHICLE OWNER											
GSA	5	4.01	0.5	36.82	15.2	477.5	118.8	2.40	.99	16.7	2.9
PRIVATE OWNER	13	4.96	2.0	36.23	20.6	484.0	83.4	2.52	.92	16.4	3.0
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	6.12	2.8	34.85	14.7	412.1	71.5	2.34	1.09	18.5	2.5
NO CNV/NO APMP	14	4.29	1.2	36.83	20.3	502.2	87.4	2.53	.89	15.9	2.8
*DISPLACEMENT											
LESS THAN 151	1	2.78	0.0	29.99	0.0	384.3	0.0	2.94	0.00	20.2	0.0
151 - 250	6	4.75	2.5	35.50	17.3	402.6	40.1	2.04	.91	18.9	1.7
251 - 350	7	5.27	1.3	42.68	23.6	494.0	42.1	2.67	.86	15.6	2.1
MORE THAN 350	4	4.08	1.3	28.33	14.1	605.5	63.1	2.72	1.10	13.5	1.7
*INERTIA WEIGHT											
1800 - 2799	2	2.93	0.2	21.85	11.5	388.1	5.5	2.88	.08	20.6	0.6
2800 - 3799	10	5.02	1.9	38.03	19.7	444.4	59.6	2.12	.84	17.3	2.2
3800 - 4799	6	4.75	1.5	38.51	19.7	576.7	66.9	2.97	.96	13.7	1.4
4800 - 5799	0										
ALL VEHICLES	18	4.70	1.8	36.39	18.8	482.2	90.7	2.49	.91	16.5	2.9

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF VEH.	HC		CO		CO2		NOX		MPG	
		MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	5	0.67	0.8	37.88	6.4	-47.1	34.7	-0.02	.36	-0.3	0.8
CHRYSLER	3	2.03	2.4	86.50	39.7	-27.8	63.6	-0.03	1.30	-2.4	1.6
FORD MOTOR CO.	5	1.43	2.7	44.05	26.8	-1.2	43.6	0.06	.75	-2.1	2.1
GENERAL MOTORS	5	0.72	2.7	59.10	37.9	-37.4	64.3	-0.18	1.20	-1.8	1.0
IMPORTS	0										
*MODEL YEAR											
1968	2	0.93	0.1	78.73	47.8	-111.8	21.1	-0.43	1.46	-0.1	1.2
1969	4	1.39	2.6	51.97	25.8	-39.6	41.0	-0.57	.77	-1.2	0.8
1970	8	0.78	2.5	43.85	14.7	-4.2	38.5	0.22	.66	-2.0	1.8
1971	3	2.16	2.2	79.03	52.5	-32.4	59.5	0.30	1.16	-2.0	2.0
1972	1	0.02	0.0	11.49	0.0	0.9	0.0	-0.29	0.00	-0.8	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	18	1.12	2.1	53.59	31.7	-28.4	50.2	-0.04	.84	-1.6	1.6
TRUCK	0										
*VEHICLE OWNER											
GSA	5	0.30	0.5	39.83	18.6	-49.7	37.0	-0.04	.55	-0.3	1.0
PRIVATE OWNER	13	1.44	2.5	58.89	34.6	-20.3	53.5	-0.04	.95	-2.0	1.5
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	0.69	3.1	45.75	27.0	-15.1	46.7	0.14	1.10	-2.0	1.1
NO CNV/NO APMP	14	1.24	1.9	55.83	33.4	-32.3	52.2	-0.10	.79	-1.4	1.7
*DISPLACEMENT											
LESS THAN 151	1	0.02	0.0	11.49	0.0	0.9	0.0	-0.29	0.00	-0.8	0.0
151 - 250	6	-0.06	1.2	43.21	13.6	-35.1	47.5	0.00	.72	-1.3	1.7
251 - 350	7	1.89	2.7	49.19	21.0	-11.2	44.1	0.01	.85	-1.8	1.6
MORE THAN 350	4	1.82	1.9	87.40	46.0	-56.0	67.7	-0.14	1.29	-1.7	1.7
*INERTIA WEIGHT											
1800 - 2799	2	0.03	0.0	23.62	17.2	14.2	18.8	-0.42	.19	-2.2	1.9
2800 - 3799	10	1.28	2.6	50.56	17.3	-29.6	47.5	0.08	.80	-1.5	1.7
3800 - 4799	6	1.21	1.8	68.64	46.5	-40.8	59.4	-0.12	1.08	-1.4	1.5
4800 - 5799	0										
ALL VEHICLES	18	1.12	2.1	53.59	31.7	-28.4	50.2	-0.04	.84	-1.6	1.6

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES-HOT START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	5	11.4	10.9	50.5	13.5	-12.9	11.0	-0.3	22.2	-2.2	5.3
CHRYSLER	3	29.3	40.2	71.5	24.6	-5.7	12.8	-11.7	57.0	-19.6	14.1
FORD MOTOR CO.	5	14.1	25.1	55.5	23.8	-0.8	10.0	-13.3	44.2	-14.7	15.4
GENERAL MOTORS	5	5.2	27.4	57.3	19.6	-8.4	14.4	-9.3	52.4	-11.3	6.1
IMPORTS	0										
*MODEL YEAR											
1968	2	15.1	3.8	57.8	20.1	-27.8	1.4	-14.5	73.2	-1.7	8.5
1969	4	12.6	25.3	48.1	18.1	-9.9	10.2	-39.4	41.5	-8.3	5.7
1970	8	8.1	25.2	60.8	16.3	-1.6	9.5	5.8	27.7	-13.7	12.8
1971	3	31.8	35.8	69.5	27.9	-6.6	12.0	0.4	55.2	-16.6	16.9
1972	1	0.7	0.0	27.7	0.0	0.2	0.0	-10.9	0.0	-4.3	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	18	13.4	24.7	57.3	19.7	-7.1	11.9	-8.3	40.4	-11.1	11.6
TRUCK	0										
*VEHICLE OWNER											
GSA	5	5.8	11.0	51.5	13.4	-14.0	11.0	-9.7	45.5	-2.4	6.0
PRIVATE OWNER	13	16.4	28.1	59.5	21.7	-4.4	11.5	-7.8	40.2	-14.5	11.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.3	31.3	53.6	20.5	-3.8	11.6	4.9	48.0	-12.2	6.7
NO CNV/NO APMP	14	16.3	23.0	58.3	20.1	-8.0	12.3	-12.1	39.1	-10.8	12.8
*DISPLACEMENT											
LESS THAN 151	1	0.7	0.0	27.7	0.0	0.2	0.0	-10.9	0.0	-4.3	0.0
151 - 250	6	1.4	17.5	56.7	12.9	-10.1	13.5	-4.7	48.8	-7.4	9.9
251 - 350	7	17.8	26.0	54.6	20.8	-2.9	10.0	-6.5	31.7	-13.4	12.6
MORE THAN 350	4	27.0	30.8	70.1	22.8	-11.6	14.1	-16.3	56.1	-14.4	14.5
*INERTIA WEIGHT											
1800 - 2799	2	1.0	0.4	50.0	31.5	3.4	4.5	-17.8	9.7	-12.1	10.9
2800 - 3799	10	13.9	24.8	58.2	14.8	-8.3	12.4	-3.2	43.0	-10.6	12.3
3800 - 4799	6	16.8	29.8	58.1	26.5	-8.5	12.3	-13.7	45.6	-11.7	12.6
4800 - 5799	0										
ALL VEHICLES	18	13.4	24.7	57.3	19.7	-7.1	11.9	-8.3	40.4	-11.1	11.6

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	3	4.40	0.6	85.00	26.8	627.7	66.8	2.03	1.23	11.6	1.5
CHRYSLER	13	3.68	1.2	73.54	18.8	585.2	134.9	2.48	.81	13.0	3.1
FORD MOTOR CO.	1	3.40	0.0	97.95	0.0	346.4	0.0	0.74	0.00	17.4	0.0
GENERAL MOTORS	0										
IMPORTS	3	3.86	1.0	66.56	4.3	295.8	68.7	1.20	.71	21.9	3.8
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	14	3.86	1.2	76.00	21.5	612.6	114.0	2.47	.91	12.3	2.6
1974	6	3.65	0.6	74.10	12.6	358.0	110.5	1.35	.63	19.1	4.4
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	16	3.59	1.0	71.95	17.6	497.0	156.1	2.03	1.00	15.3	4.5
TRUCK	4	4.64	1.2	89.36	19.7	692.9	68.3	2.56	.87	10.5	0.9
*VEHICLE OWNER											
GSA	13	3.88	1.1	76.99	21.7	592.8	137.3	2.29	.89	12.8	3.2
PRIVATE OWNER	7	3.64	1.0	72.54	13.3	431.2	161.9	1.85	1.14	17.2	5.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	7	3.67	1.0	80.52	20.0	578.0	150.6	2.31	1.13	12.9	3.0
NO CNV/NO APMP	13	3.87	1.2	72.70	18.5	513.7	170.2	2.04	.92	15.1	5.0
*DISPLACEMENT											
LESS THAN 151	4	3.75	0.8	74.41	16.1	308.4	61.6	1.08	.62	20.8	3.8
151 - 250	3	3.55	0.1	68.93	6.2	371.3	33.3	1.95	.87	18.1	1.4
251 - 350	3	4.84	0.9	81.36	8.2	575.6	19.3	2.69	.72	12.4	0.6
MORE THAN 350	10	3.58	1.3	76.02	24.9	665.0	56.2	2.44	.95	11.3	1.1
*INERTIA WEIGHT											
1800 - 2799	3	3.86	1.0	66.56	4.3	295.8	68.7	1.20	.71	21.9	3.8
2800 - 3799	6	3.79	0.5	76.33	11.9	431.9	106.3	2.02	1.02	16.2	2.9
3800 - 4799	11	3.79	1.4	77.36	24.0	658.7	57.3	2.45	.90	11.3	1.0
4800 - 5799	0										
ALL VEHICLES	20	3.80	1.1	75.43	18.9	536.2	162.6	2.13	.98	14.4	4.4

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	3	4.08	0.4	30.13	14.1	596.8	14.7	3.11	1.08	13.5	0.5
CHRYSLER	13	3.53	1.6	37.40	17.5	541.7	103.0	3.67	1.03	14.9	2.8
FORD MOTOR CO.	1	2.75	0.0	67.95	0.0	363.9	0.0	1.29	0.00	18.5	0.0
GENERAL MOTORS	0										
IMPORTS	3	3.86	1.2	40.36	4.2	300.3	66.6	1.95	1.06	24.3	5.3
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	14	3.51	1.0	33.30	11.8	568.5	89.3	3.69	1.03	14.3	2.3
1974	6	3.89	2.1	49.91	21.1	356.5	80.8	2.07	.84	20.9	5.3
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	16	3.50	1.5	40.25	17.5	482.8	135.3	2.93	1.19	16.9	4.9
TRUCK	4	4.12	0.7	30.39	10.6	593.3	61.2	4.31	.56	13.7	1.4
*VEHICLE OWNER											
GSA	13	3.50	0.8	33.37	11.9	549.0	100.2	3.55	.98	14.9	2.8
PRIVATE OWNER	7	3.85	2.1	47.40	20.9	423.0	148.5	2.57	1.44	18.9	6.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	7	3.58	1.2	41.10	17.7	541.3	106.4	3.26	1.23	14.6	2.3
NO CNV/NO APMP	13	3.65	1.5	36.77	16.5	485.3	142.2	3.18	1.27	17.2	5.3
*DISPLACEMENT											
LESS THAN 151	4	3.59	1.2	47.25	14.2	316.2	63.0	1.78	.93	22.8	5.2
151 - 250	3	3.08	0.3	42.82	13.2	384.1	29.0	2.95	1.21	19.4	1.9
251 - 350	3	5.03	2.6	46.12	33.1	522.9	52.2	3.71	1.42	14.6	1.0
MORE THAN 350	10	3.38	1.1	30.98	10.4	611.2	25.7	3.70	.91	13.3	0.5
*INERTIA WEIGHT											
1800 - 2799	3	3.86	1.2	40.36	4.2	300.3	66.6	1.95	1.06	24.3	5.3
2800 - 3799	6	3.84	2.0	51.66	21.9	428.5	85.6	2.95	1.49	17.4	3.0
3800 - 4799	11	3.44	1.1	30.42	10.0	602.3	38.2	3.69	.86	13.5	0.9
4800 - 5799	0										
ALL VEHICLES	20	3.62	1.4	38.28	16.6	504.9	130.8	3.21	1.22	16.3	4.5

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	3	0.32	0.3	54.87	13.0	30.9	67.2	-1.08	.29	-1.9	1.1
CHRYSLER	13	0.15	1.4	36.14	23.7	43.5	58.1	-1.18	.75	-1.9	1.0
FORD MOTOR CO.	1	0.65	0.0	30.00	0.0	-17.5	0.0	-0.55	0.00	-1.1	0.0
GENERAL MOTORS	0										
IMPORTS	3	0.00	0.3	26.21	7.9	-4.6	16.1	-0.75	.40	-2.4	1.5
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	14	0.35	0.9	42.70	20.9	44.1	56.9	-1.22	.69	-2.0	1.0
1974	6	-0.24	1.5	24.20	16.8	1.5	40.9	-0.72	.39	-1.8	1.1
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	16	0.09	1.0	31.70	18.4	14.3	42.0	-0.90	.50	-1.6	0.9
TRUCK	4	0.52	1.6	58.97	19.1	99.6	52.9	-1.75	.80	-3.1	0.7
*VEHICLE OWNER											
GSA	13	0.38	0.9	43.62	20.9	43.8	61.4	-1.26	.64	-2.1	1.0
PRIVATE OWNER	7	-0.21	1.4	25.15	17.2	8.2	34.6	-0.72	.55	-1.7	1.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	7	0.09	0.7	39.42	17.4	36.6	76.2	-0.95	.46	-1.7	1.1
NO CNV/NO APMP	13	0.22	1.3	35.93	23.6	28.5	43.8	-1.14	.74	-2.0	1.0
*DISPLACEMENT											
LESS THAN 151	4	0.16	0.4	27.15	6.7	-7.8	14.6	-0.70	.34	-2.1	1.4
151 - 250	3	0.46	0.2	26.11	12.3	-12.8	17.7	-1.00	.43	-1.2	0.6
251 - 350	3	-0.19	2.7	35.24	38.6	52.7	49.8	-1.02	.71	-2.2	1.5
MORE THAN 350	10	0.20	0.9	45.04	20.4	53.8	61.0	-1.26	.77	-2.0	0.9
*INERTIA WEIGHT											
1800 - 2799	3	0.00	0.3	26.21	7.9	-4.6	16.1	-0.75	.40	-2.4	1.5
2800 - 3799	6	-0.06	1.6	24.66	19.7	3.4	39.9	-0.93	.56	-1.2	0.4
3800 - 4799	11	0.35	1.0	46.95	20.3	56.4	58.5	-1.24	.74	-2.2	1.1
4800 - 5799	0										
ALL VEHICLES	20	0.18	1.1	37.15	21.2	31.3	55.3	-1.07	.65	-1.9	1.0

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES-HOT START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	3	6.8	4.9	65.5	5.2	4.3	9.8	-72.6	57.1	-17.8	12.1
CHRYSLER	13	1.5	32.3	47.5	23.9	6.1	9.0	-55.9	52.9	-16.0	10.7
FORD MOTOR CO.	1	19.1	0.0	30.6	0.0	-5.1	0.0	-74.3	0.0	-6.6	0.0
GENERAL MOTORS	0										
IMPORTS	3	1.4	8.8	39.0	9.9	-1.8	4.9	-71.3	33.7	-10.3	4.8
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	14	5.5	22.9	54.4	17.6	6.4	8.0	-61.2	54.4	-17.4	10.8
1974	6	-2.3	34.8	33.5	23.3	-1.3	8.5	-62.6	32.1	-9.0	3.5
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	16	2.6	24.8	43.7	20.9	1.5	7.3	-54.9	34.8	-11.2	6.6
TRUCK	4	5.2	35.6	65.5	12.9	14.2	6.6	-88.6	85.1	-29.9	6.3
*VEHICLE OWNER											
GSA	13	5.6	23.4	54.9	17.3	5.9	9.3	-67.1	54.1	-17.8	11.2
PRIVATE OWNER	7	-1.4	32.4	35.4	23.3	0.7	7.0	-51.5	34.8	-9.5	3.3
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	7	3.0	20.5	49.2	17.9	4.4	10.8	-55.0	41.7	-15.2	12.7
NO CNV/NO APMP	13	3.2	29.7	47.5	23.5	3.9	7.9	-65.2	52.2	-14.7	8.7
*DISPLACEMENT											
LESS THAN 151	4	5.8	11.4	36.9	9.1	-2.6	4.3	-72.1	27.5	-9.4	4.4
151 - 250	3	13.1	5.5	37.9	17.0	-3.6	5.2	-52.3	20.0	-6.6	2.9
251 - 350	3	-5.7	56.7	41.3	45.3	9.2	8.7	-34.9	17.5	-18.2	13.5
MORE THAN 350	10	1.8	25.0	57.6	14.1	7.5	8.4	-68.3	63.8	-18.6	10.3
*INERTIA WEIGHT											
1800 - 2799	3	1.4	8.8	39.0	9.9	-1.8	4.9	-71.3	33.7	-10.3	4.8
2800 - 3799	6	1.7	36.0	32.6	26.1	-0.4	8.1	-49.5	22.7	-7.9	2.7
3800 - 4799	11	4.4	25.3	59.0	14.1	8.1	8.2	-65.6	61.1	-20.0	10.8
4800 - 5799	0										
ALL VEHICLES	20	3.2	26.3	48.1	21.3	4.1	8.7	-61.6	47.9	-14.9	10.0

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	2.23	0.0	70.26	0.0	402.7	0.0	1.82	0.00	17.1	0.0
CHRYSLER	2	2.72	1.0	51.06	27.2	546.2	139.5	3.24	.28	14.1	2.1
FORD MOTOR CO.	1	0.80	0.0	7.46	0.0	681.5	0.0	0.83	0.00	12.8	0.0
GENERAL MOTORS	16	1.78	0.7	47.90	28.5	592.0	84.3	1.26	.42	13.4	2.0
IMPORTS	2	1.02	0.6	22.24	19.4	341.2	15.6	1.60	.29	23.4	1.0
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	22	1.77	0.8	45.03	28.1	560.5	115.1	1.47	.70	14.5	3.5
***VEHICLE TYPE**											
AUTOMOBILE	18	1.70	0.7	46.44	29.2	564.4	123.3	1.37	.59	14.5	3.8
TRUCK	4	2.11	1.0	38.71	25.0	542.8	78.8	1.93	1.07	14.6	1.0
***VEHICLE OWNER**											
GSA	3	2.39	1.0	48.16	20.0	510.7	55.8	1.99	1.30	15.0	0.8
PRIVATE OWNER	19	1.68	0.7	44.54	29.6	568.4	121.0	1.39	.58	14.5	3.7
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	5	1.15	0.6	13.23	10.8	648.2	82.1	1.73	1.02	13.4	1.8
CNV/NO A.PMP	13	1.97	0.6	56.89	23.3	581.4	78.1	1.18	.23	13.4	2.0
A.PMP/NO CNV	2	1.02	0.6	22.24	19.4	341.2	15.6	1.60	.29	23.4	1.0
NO CNV/NO APMP	2	2.82	0.8	70.26	0.0	425.1	31.8	2.63	1.15	16.3	1.0
***DISPLACEMENT**											
LESS THAN 151	3	0.86	0.5	18.85	14.9	402.3	106.5	1.28	.60	21.0	4.2
151 - 250	4	2.43	0.8	49.06	16.4	479.0	78.0	1.76	1.16	15.9	2.0
251 - 350	13	1.88	0.6	52.76	29.9	597.4	73.5	1.38	.59	13.1	1.5
MORE THAN 350	2	1.19	0.1	25.99	30.6	720.9	41.9	1.84	.81	11.6	0.1
***INERTIA WEIGHT**											
1800 - 2799	1	0.53	0.0	12.07	0.0	524.6	0.0	0.63	0.00	16.3	0.0
2800 - 3799	5	1.52	0.9	34.80	27.3	430.1	143.3	1.39	.44	19.1	4.5
3800 - 4799	15	1.97	0.7	50.47	28.7	597.6	71.8	1.57	.79	13.1	1.3
4800 - 5799	1	1.29	0.0	47.60	0.0	691.3	0.0	1.26	0.00	11.5	0.0
ALL VEHICLES	22	1.77	0.8	45.03	28.1	560.5	115.1	1.47	.70	14.5	3.5

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	1.32	0.0	9.26	0.0	442.7	0.0	3.75	0.00	19.2	0.0
CHRYSLER	2	2.38	1.0	31.21	9.2	518.5	91.8	3.35	.75	15.6	2.0
FORD MOTOR CO.	1	0.79	0.0	3.39	0.0	596.1	0.0	3.98	0.00	14.7	0.0
GENERAL MOTORS	16	1.03	0.5	21.04	13.6	583.1	93.2	1.94	.72	14.7	2.6
IMPORTS	2	0.78	0.4	12.34	12.7	337.5	15.4	1.98	.03	24.8	2.5
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	22	1.13	0.7	19.83	13.4	549.1	111.8	2.25	.92	15.9	3.8
*VEHICLE TYPE											
AUTOMOBILE	18	1.05	0.5	20.29	13.8	555.9	119.7	2.03	.76	15.8	4.2
TRUCK	4	1.52	1.1	17.79	13.3	518.6	68.6	3.23	1.02	16.2	1.5
*VEHICLE OWNER											
GSA	3	1.60	1.3	20.43	15.0	488.4	39.9	3.66	.66	16.9	0.8
PRIVATE OWNER	19	1.06	0.5	19.74	13.6	558.7	117.0	2.02	.74	15.7	4.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	1.07	0.5	9.64	9.0	582.7	117.3	2.52	.92	15.3	3.5
CNV/NO A.PMP	13	1.05	0.6	24.34	12.8	584.3	79.2	1.94	.79	14.4	2.0
A.PMP/NO CNV	2	0.78	0.4	12.34	12.7	337.5	15.4	1.98	.03	24.8	2.5
NO CNV/NO APMP	2	2.19	1.2	23.49	20.1	448.1	7.7	3.81	.09	18.1	1.6
*DISPLACEMENT											
LESS THAN 151	3	0.95	0.4	10.99	9.3	358.1	37.2	1.87	.20	23.7	2.7
151 - 250	4	1.81	1.1	25.67	16.1	466.2	55.1	3.16	1.13	17.4	1.1
251 - 350	13	1.05	0.4	21.47	13.2	599.4	60.4	2.09	.88	14.1	1.8
MORE THAN 350	2	0.56	0.4	10.78	12.4	674.6	72.4	1.98	.35	12.8	1.0
*INERTIA WEIGHT											
1800 - 2799	1	1.30	0.0	8.28	0.0	399.1	0.0	1.64	0.00	21.3	0.0
2800 - 3799	5	1.22	0.7	15.74	16.1	422.7	106.9	2.67	1.10	20.5	4.5
3800 - 4799	15	1.11	0.7	21.98	13.2	596.3	73.3	2.18	.89	14.2	1.7
4800 - 5799	1	0.83	0.0	19.58	0.0	623.4	0.0	1.74	0.00	13.5	0.0
ALL VEHICLES	22	1.13	0.7	19.83	13.4	549.1	111.8	2.25	.92	15.9	3.8

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	0.91	0.0	61.00	0.0	-40.0	0.0	-1.93	0.00	-2.2	0.0
CHRYSLER	2	0.35	0.0	19.85	17.9	27.7	47.7	-0.11	.47	-1.4	0.1
FORD MOTOR CO.	1	0.01	0.0	4.07	0.0	85.4	0.0	-3.15	0.00	-1.9	0.0
GENERAL MOTORS	16	0.75	0.7	26.86	23.1	8.9	53.4	-0.68	.70	-1.2	1.4
IMPORTS	2	0.24	0.2	9.90	6.7	3.7	30.9	-0.38	.32	-1.4	1.5
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	22	0.64	0.6	25.20	22.5	11.4	51.1	-0.77	.87	-1.3	1.3
*VEHICLE TYPE											
AUTOMOBILE	18	0.65	0.7	26.15	24.1	8.5	54.3	-0.65	.79	-1.3	1.3
TRUCK	4	0.59	0.5	20.91	14.7	24.2	36.8	-1.30	1.16	-1.6	1.3
*VEHICLE OWNER											
GSA	3	0.79	0.4	27.73	6.8	22.3	44.8	-1.67	1.10	-1.9	1.4
PRIVATE OWNER	19	0.62	0.7	24.80	24.2	9.7	53.0	-0.63	.78	-1.2	1.3
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	0.08	0.6	3.58	2.5	65.5	41.6	-0.79	1.41	-1.9	1.8
CNV/NO A.PMP	13	0.92	0.6	32.55	21.8	-2.9	47.2	-0.76	.72	-1.0	1.1
A.PMP/NO CNV	2	0.24	0.2	9.90	6.7	3.7	30.9	-0.38	.32	-1.4	1.5
NO CNV/NO APMP	2	0.63	0.4	46.76	20.1	-23.0	24.0	-1.19	1.05	-1.8	0.6
*DISPLACEMENT											
LESS THAN 151	3	-0.10	0.6	7.86	5.9	44.3	73.7	-0.59	.43	-2.6	2.3
151 - 250	4	0.62	0.5	23.40	10.3	12.8	41.2	-1.40	1.05	-1.5	1.5
251 - 350	13	0.82	0.6	31.29	26.3	-2.0	50.0	-0.72	.90	-1.0	0.8
MORE THAN 350	2	0.63	0.2	15.21	18.1	46.4	30.5	-0.15	.47	-1.2	1.1
*INERTIA WEIGHT											
1800 - 2799	1	-0.77	0.0	3.79	0.0	125.5	0.0	-1.01	0.00	-5.1	0.0
2800 - 3799	5	0.30	0.4	19.06	23.8	7.4	49.6	-1.28	1.24	-1.4	1.1
3800 - 4799	15	0.86	0.5	28.49	23.2	1.3	44.1	-0.60	.76	-1.0	1.0
4800 - 5799	1	0.46	0.0	28.02	0.0	67.9	0.0	-0.48	0.00	-2.0	0.0
ALL VEHICLES	22	0.64	0.6	25.20	22.5	11.4	51.1	-0.77	.87	-1.3	1.3

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES--HOT START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	1	40.8	0.0	86.8	0.0	-9.9	0.0	-106.0	0.0	-12.7	0.0
CHRYSLER	2	13.6	5.1	34.4	16.8	4.1	7.7	-2.8	14.2	-10.3	2.1
FORD MOTOR CO.	1	1.2	0.0	54.6	0.0	12.5	0.0	-379.5	0.0	-15.2	0.0
GENERAL MOTORS	16	32.6	53.1	50.8	22.8	1.3	9.5	-64.2	64.2	-9.2	9.6
IMPORTS	2	20.6	10.2	50.6	14.1	0.9	9.0	-25.6	24.4	-5.9	6.1
***MODEL YEAR**											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	22	28.7	45.9	51.1	21.9	1.5	9.2	-71.3	90.8	-9.5	8.4
***VEHICLE TYPE**											
AUTOMOBILE	18	28.3	49.5	52.1	20.7	1.0	9.7	-65.0	89.6	-9.1	8.5
TRUCK	4	30.3	28.8	46.5	29.9	4.1	6.7	-99.9	104.3	-11.2	9.4
***VEHICLE OWNER**											
GSA	3	39.9	26.4	60.5	13.0	3.9	8.2	-129.6	105.0	-13.3	10.3
PRIVATE OWNER	19	26.9	48.5	49.6	22.9	1.2	9.5	-62.1	88.0	-8.9	8.3
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	5	-10.4	81.0	33.6	21.5	10.8	8.2	-107.2	167.7	-13.4	10.9
CNV/NO A.PMP	13	45.5	22.2	55.5	20.3	-0.8	8.1	-66.4	60.9	-8.3	8.5
A.PMP/NO CNV	2	20.6	10.2	50.6	14.1	0.9	9.0	-25.6	24.4	-5.9	6.1
NO CNV/NO APMP	2	25.4	21.8	66.6	28.7	-5.6	6.1	-59.4	65.9	-10.8	2.7
***DISPLACEMENT**											
LESS THAN 151	3	-34.7	96.0	44.2	14.9	8.6	14.8	-70.5	79.7	-14.3	15.1
151 - 250	4	31.1	27.8	50.4	22.8	1.9	7.8	-110.8	93.6	-10.0	10.7
251 - 350	13	38.6	25.9	52.0	25.6	-1.0	8.4	-68.0	100.2	-8.0	6.5
MORE THAN 350	2	54.5	26.7	56.8	3.0	6.6	4.6	-15.3	32.2	-10.8	9.2
***INERTIA WEIGHT**											
1800 - 2799	1	-145.3	0.0	31.4	0.0	23.9	0.0	-160.3	0.0	-31.0	0.0
2800 - 3799	5	17.6	16.5	52.6	24.7	0.1	9.4	-118.3	150.2	-8.0	6.7
3800 - 4799	15	43.5	25.2	51.4	22.7	0.0	7.6	-51.9	64.0	-8.0	7.3
4800 - 5799	1	35.7	0.0	58.9	0.0	9.8	0.0	-38.1	0.0	-17.3	0.0
ALL VEHICLES	22	28.7	45.9	51.1	21.9	1.5	9.2	-71.3	90.8	-9.5	8.4

STATISTICAL SUMMARY OF EXHAUST EMISSIONS
90% CONFIDENCE INTERVALS (C.I.)
HYDROCARBONS (HC)
HOT START DATA

	#OF	BASELINE		AFTER INST.		REDUCTION			PERCENT REDUCTION		
	VEH	MEAN	S.D.	MEAN	S.D.	MEAN	±C.I.	S.D.	MEAN	±C.I.	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	9	4.33	1.41	3.75	1.12	0.58	0.36	0.59	13.2	8.2	13.3
CHRYSLER	18	3.94	1.47	3.46	1.49	0.48	0.66	1.61	7.5	13.2	32.3
FORD MOTOR CO.	7	4.84	3.40	3.72	1.89	1.12	1.65	2.30	13.0	15.2	21.2
GENERAL MOTORS	21	2.97	2.65	2.22	2.50	0.75	0.51	1.35	26.0	18.4	49.1
IMPORTS	5	2.73	1.73	2.63	1.91	0.10	0.24	0.26	9.0	11.9	13.2
***MODEL YEAR**											
1968	2	6.18	0.58	5.26	0.73	0.93	0.31	0.15	15.1	7.9	3.8
1969	4	6.86	3.40	5.47	1.49	1.39	2.73	2.56	12.6	26.9	25.3
1970	8	5.63	2.77	4.85	2.19	0.78	1.63	2.48	8.1	16.6	25.2
1971	3	5.68	1.55	3.52	0.80	2.16	2.97	2.19	31.8	48.6	35.8
1972	1	2.80	0.00	2.78	0.00	0.02	0.00	0.00	0.7	0.0	0.0
1973	14	3.86	1.23	3.51	1.01	0.35	0.43	0.92	5.5	10.8	22.9
1974	6	3.65	0.64	3.89	2.09	-0.24	1.22	1.53	-2.3	27.6	34.8
1975	22	1.77	0.76	1.13	0.66	0.64	0.23	0.62	28.7	16.8	45.9
***VEHICLE TYPE**											
AUTOMOBILE	52	3.71	2.36	3.06	2.05	0.64	0.34	1.47	15.3	8.5	36.2
TRUCK	8	3.38	1.68	2.82	1.63	0.56	0.74	1.13	17.8	21.6	32.9
***VEHICLE OWNER**											
GSA	21	3.77	1.17	3.35	1.10	0.42	0.30	0.79	10.5	9.0	24.0
PRIVATE OWNER	39	3.60	2.70	2.86	2.33	0.74	0.45	1.66	18.3	10.9	40.5
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	5	1.15	0.57	1.07	0.54	0.08	0.52	0.57	-10.4	73.0	81.0
CNV/NO A.PMP	13	1.97	0.58	1.05	0.56	0.92	0.27	0.55	45.5	10.9	22.2
A.PMP/NO CNV	13	4.23	2.80	3.93	2.46	0.30	0.82	1.68	5.8	11.1	22.5
NO CNV/NO APMP	29	4.60	1.95	3.86	1.41	0.74	0.52	1.64	11.1	8.3	26.4
***DISPLACEMENT**											
LESS THAN 151	8	2.54	1.56	2.50	1.53	0.05	0.29	0.43	-10.0	36.7	55.8
151 - 250	13	3.73	1.50	3.46	2.16	0.27	0.42	0.85	13.2	11.0	22.4
251 - 350	23	3.87	2.99	2.86	2.36	1.02	0.66	1.84	26.5	11.8	33.1
MORE THAN 350	16	3.87	1.85	3.20	1.49	0.66	0.58	1.33	14.7	13.6	31.2
***INERTIA WEIGHT**											
1800 - 2799	6	3.01	1.44	3.13	1.28	-0.12	0.29	0.37	-23.2	47.6	60.1
2800 - 3799	21	4.45	2.85	3.78	2.29	0.67	0.75	2.00	11.3	9.9	26.4
3800 - 4799	32	3.35	1.86	2.59	1.78	0.75	0.32	1.05	25.1	9.3	31.1
4800 - 5799	1	1.29	0.00	0.83	0.00	0.46	0.00	0.00	35.7	0.0	0.0
***POPULATION SUMMARY**											
1968-1972	18	5.82	2.52	4.70	1.77	1.12	0.88	2.14	13.4	10.1	24.7
1973-1974	20	3.80	1.08	3.62	1.37	0.18	0.43	1.13	3.2	10.1	26.3
1975	22	1.77	0.76	1.13	0.66	0.64	0.23	0.62	28.7	16.8	45.9
ALL VEHICLES	60	3.66	2.27	3.03	1.99	0.63	0.31	1.42	15.6	7.7	35.6

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

STATISTICAL SUMMARY OF EXHAUST EMISSIONS
90% CONFIDENCE INTERVALS (C.I.)
CARBON MONOXIDE (CO)
HOT START DATA

	#OF	BASELINE		AFTER INST.		REDUCTION			PERCENT REDUCTION		
	VEH	MEAN	S.D.	MEAN	S.D.	MEAN	±C.I.	S.D.	MEAN	±C.I.	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	9	80.59	24.67	34.48	21.60	46.11	7.76	12.71	59.5	9.8	16.0
CHRYSLER	18	78.25	26.59	35.53	16.88	42.72	13.14	32.14	50.0	10.1	24.6
FORD MOTOR CO.	7	70.89	36.52	34.56	25.29	36.33	19.05	26.60	51.8	15.4	21.5
GENERAL MOTORS	21	59.28	38.17	24.74	14.82	34.54	11.17	29.75	52.3	8.2	21.7
IMPORTS	5	48.84	26.32	29.15	16.87	19.68	9.96	11.05	43.7	10.6	11.8
*MODEL YEAR											
1968	2	129.60	37.51	50.87	10.27	78.73	98.67	47.79	57.8	41.6	20.1
1969	4	103.75	17.12	51.78	10.14	51.97	27.53	25.83	48.1	19.3	18.1
1970	8	74.66	23.64	30.81	21.20	43.85	9.64	14.67	60.8	10.7	16.3
1971	3	102.26	45.11	23.24	12.01	79.03	71.26	52.45	69.5	37.9	27.9
1972	1	41.48	0.00	29.99	0.00	11.49	0.00	0.00	27.7	0.0	0.0
1973	14	76.00	21.46	33.30	11.85	42.70	9.85	20.92	54.4	8.3	17.6
1974	6	74.10	12.63	49.91	21.14	24.20	13.35	16.84	33.5	18.5	23.3
1975	22	45.03	28.07	19.83	13.42	25.20	8.24	22.51	51.1	8.0	21.9
*VEHICLE TYPE											
AUTOMOBILE	52	69.36	32.91	32.01	18.65	37.36	6.49	27.84	51.3	4.8	20.8
TRUCK	8	64.03	34.15	24.09	13.02	39.94	16.93	25.74	56.0	15.5	23.6
*VEHICLE OWNER											
GSA	21	72.79	24.23	32.34	13.46	40.44	7.19	19.13	54.9	5.8	15.5
PRIVATE OWNER	39	66.43	36.74	30.20	20.30	36.23	8.38	31.06	50.3	6.3	23.5
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	13.23	10.82	9.64	9.03	3.58	2.22	2.46	33.6	19.4	21.5
CNV/NO A.PMP	13	56.89	23.29	24.34	12.80	32.55	10.73	21.85	55.5	10.0	20.3
A.PMP/NO CNV	13	71.58	31.97	34.75	18.22	36.83	10.86	22.10	50.8	8.3	16.9
NO CNV/NO APMP	29	82.17	27.89	35.88	18.27	46.29	9.29	29.45	54.0	7.0	22.2
*DISPLACEMENT											
LESS THAN 151	8	49.46	30.67	31.50	20.83	17.96	7.42	11.28	38.5	7.5	11.4
151 - 250	13	67.33	23.03	34.16	16.21	33.17	7.35	14.96	50.4	8.6	17.5
251 - 350	23	68.40	31.52	31.14	21.80	37.25	9.46	26.48	51.4	9.3	26.1
MORE THAN 350	16	79.69	39.87	27.79	12.68	51.90	15.37	35.22	60.6	7.0	16.0
*INERTIA WEIGHT											
1800 - 2799	6	50.45	21.77	28.84	14.74	21.61	10.08	12.71	41.4	13.5	17.1
2800 - 3799	21	72.28	31.13	36.62	22.89	35.66	8.90	23.71	49.5	8.5	22.7
3800 - 4799	32	70.34	35.48	27.98	14.67	42.36	9.27	30.97	55.3	6.2	20.6
4800 - 5799	1	47.60	0.00	19.58	0.00	28.02	0.00	0.00	58.9	0.0	0.0
*POPULATION SUMMARY											
1968-1972	18	89.99	33.30	36.39	18.83	53.59	12.94	31.66	57.3	8.0	19.7
1973-1974	20	75.43	18.92	38.28	16.57	37.15	8.18	21.21	48.1	8.2	21.3
1975	22	45.03	28.07	19.83	13.42	25.20	8.24	22.51	51.1	8.0	21.9
ALL VEHICLES	60	68.65	32.83	30.95	18.11	37.70	5.92	27.38	51.9	4.5	21.0

STATISTICAL SUMMARY OF EXHAUST EMISSIONS
90% CONFIDENCE INTERVALS (C.I.)
CARBON DIOXIDE (CO_2)
HOT START DATA

	#OF	BASELINE		AFTER INST.		REDUCTION			PERCENT REDUCTION		
	VEH	MEAN	S.D.	MEAN	S.D.	MEAN	±C.I.	S.D.	MEAN	±C.I.	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	9	483.33	128.25	503.67	82.10	-20.33	34.63	56.68	-6.8	7.6	12.4
CHRYSLER	18	569.60	121.55	539.75	91.16	29.86	24.92	60.98	3.9	4.1	10.0
FORD MOTOR CO.	7	502.57	139.02	493.73	118.52	8.84	35.42	49.45	0.5	7.1	9.9
GENERAL MOTORS	21	549.19	110.26	551.33	109.89	-2.14	21.82	58.09	-1.0	4.2	11.3
IMPORTS	5	313.94	55.15	315.22	51.91	-1.28	17.75	19.70	-0.7	5.3	5.9
*MODEL YEAR											
1968	2	404.35	96.52	516.15	117.59	-111.80	43.51	21.07	-27.8	3.0	1.4
1969	4	447.12	72.57	486.70	47.40	-39.57	43.72	41.01	-9.9	10.8	10.2
1970	8	432.51	73.94	436.75	67.49	-4.24	25.29	38.45	-1.6	6.2	9.5
1971	3	575.13	101.62	607.53	77.15	-32.40	80.89	59.54	-6.6	16.3	12.0
1972	1	385.20	0.00	384.30	0.00	0.90	0.00	0.00	0.2	0.0	0.0
1973	14	612.61	114.04	568.47	89.33	44.14	26.80	56.94	6.4	3.8	8.0
1974	6	358.00	110.50	356.52	80.78	1.48	32.44	40.90	-1.3	6.8	8.5
1975	22	560.51	115.14	549.13	111.76	11.38	18.72	51.14	1.5	3.4	9.2
*VEHICLE TYPE											
AUTOMOBILE	52	505.39	131.16	507.90	118.97	-2.51	12.14	52.06	-1.6	2.5	10.5
TRUCK	8	617.89	105.35	555.97	72.24	61.91	38.37	58.34	9.2	5.4	8.2
*VEHICLE OWNER											
GSA	21	541.78	145.11	523.31	100.71	18.48	24.67	65.69	0.9	4.7	12.5
PRIVATE OWNER	39	508.87	126.37	509.46	122.36	-0.59	13.81	51.19	-0.8	2.7	10.0
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	648.16	82.10	582.70	117.33	65.46	37.49	41.60	10.8	7.4	8.2
CNV/NO A.PMP	13	581.36	78.14	584.31	79.21	-2.95	23.17	47.16	-0.8	4.0	8.1
A.PMP/NO CNV	13	485.89	152.17	470.24	118.18	15.65	31.55	64.23	1.4	5.2	10.6
NO CNV/NO APMP	29	486.50	131.73	490.90	111.51	-4.40	17.35	54.99	-2.5	3.6	11.5
*DISPLACEMENT											
LESS THAN 151	8	353.24	84.79	340.42	53.29	12.81	31.74	48.26	1.9	6.6	10.1
151 - 250	13	402.70	70.43	417.92	52.44	-15.22	21.28	43.32	-4.9	5.5	11.2
251 - 350	23	559.69	80.37	557.36	72.16	2.32	18.00	50.35	-0.2	3.3	9.4
MORE THAN 350	16	643.11	85.91	617.67	45.22	25.44	32.60	74.68	2.6	5.4	12.5
*INERTIA WEIGHT											
1800 - 2799	6	369.43	102.53	346.07	65.64	23.37	41.69	52.55	4.2	8.4	10.6
2800 - 3799	21	423.34	97.26	434.68	76.25	-11.34	17.72	47.20	-4.1	4.1	11.0
3800 - 4799	32	607.05	79.70	594.70	60.86	12.35	18.57	62.02	1.2	3.1	10.4
4800 - 5799	1	691.30	0.00	623.40	0.00	67.90	0.00	0.00	9.8	0.0	0.0
*POPULATION SUMMARY											
1968-1972	18	453.77	91.27	482.22	90.75	-28.45	20.54	50.25	-7.1	4.9	11.9
1973-1974	20	536.22	162.61	504.88	130.80	31.34	21.34	55.32	4.1	3.4	8.7
1975	22	560.51	115.14	549.13	111.76	11.38	18.72	51.14	1.5	3.4	9.2
ALL VEHICLES	60	520.39	132.94	514.31	114.56	6.08	12.31	56.87	-0.2	2.3	10.8

STATISTICAL SUMMARY OF EXHAUST EMISSIONS
90% CONFIDENCE INTERVALS (C.I.)
OXIDES OF NITROGEN (NO_x)
HOT START DATA

	#OF VEH	BASELINE MEAN	BASELINE S.D.	AFTER INST. MEAN	AFTER INST. S.D.	REDUCTION MEAN	REDUCTION ±C.I.	REDUCTION S.D.	PERCENT REDUCTION MEAN	PERCENT REDUCTION ±C.I.	PERCENT REDUCTION S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	9	1.98	0.77	2.56	1.05	-0.58	0.48	0.78	-36.1	33.3	54.5
CHRYSLER	18	2.52	0.78	3.40	1.07	-0.87	0.38	0.94	-42.6	21.8	53.5
FORD MOTOR CO.	7	2.40	1.57	2.89	1.00	-0.49	0.96	1.34	-74.3	101.1	141.2
GENERAL MOTORS	21	1.54	0.66	2.10	0.85	-0.56	0.32	0.84	-51.1	24.4	64.9
IMPORTS	5	1.36	0.56	1.96	0.75	-0.60	0.35	0.38	-53.0	33.0	36.7
*MODEL YEAR											
1968	2	1.91	0.43	2.35	1.90	-0.43	3.02	1.46	-14.5	151.1	73.2
1969	4	2.51	1.38	3.07	0.82	-0.57	0.82	0.77	-39.4	44.2	41.5
1970	8	2.43	0.80	2.21	0.73	0.22	0.44	0.66	5.8	18.2	27.7
1971	3	2.69	1.18	2.39	1.09	0.30	1.57	1.16	0.4	75.1	55.2
1972	1	2.65	0.00	2.94	0.00	-0.29	0.00	0.00	-10.9	0.0	0.0
1973	14	2.47	0.91	3.69	1.03	-1.22	0.33	0.69	-61.2	25.6	54.4
1974	6	1.35	0.63	2.07	0.84	-0.72	0.31	0.39	-62.6	25.5	32.1
1975	22	1.47	0.70	2.25	0.92	-0.77	0.32	0.87	-71.3	33.2	90.8
*VEHICLE TYPE											
AUTOMOBILE	52	1.95	0.94	2.46	1.01	-0.52	0.19	0.81	-42.3	15.1	64.9
TRUCK	8	2.24	0.96	3.77	0.95	-1.52	0.63	0.96	-94.2	58.1	88.3
*VEHICLE OWNER											
GSA	21	2.26	0.95	3.29	1.04	-1.03	0.33	0.88	-62.4	25.6	68.3
PRIVATE OWNER	39	1.84	0.92	2.29	0.96	-0.45	0.23	0.84	-42.1	19.1	70.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	1.73	1.02	2.52	0.92	-0.79	1.27	1.41	-107.2	151.1	167.7
CNV/NO A.PMP	13	1.18	0.23	1.94	0.79	-0.76	0.35	0.72	-66.4	29.9	60.9
A.PMP/NO CNV	13	2.25	0.89	2.78	1.17	-0.53	0.40	0.82	-32.1	23.4	47.6
NO CNV/NO APMP	29	2.27	0.96	2.91	1.11	-0.64	0.29	0.92	-39.2	16.5	52.4
*DISPLACEMENT											
LESS THAN 151	8	1.35	0.74	1.96	0.73	-0.61	0.23	0.35	-63.8	33.5	51.0
151 - 250	13	1.94	0.81	2.60	1.09	-0.66	0.48	0.97	-48.4	36.5	74.2
251 - 350	23	1.95	1.01	2.48	1.06	-0.53	0.32	0.91	-44.9	29.0	81.1
MORE THAN 350	16	2.40	0.91	3.24	1.08	-0.84	0.44	1.01	-48.7	27.0	61.8
*INERTIA WEIGHT											
1800 - 2799	6	1.52	0.89	2.21	0.86	-0.68	0.28	0.35	-68.3	44.8	56.5
2800 - 3799	21	1.95	0.86	2.49	1.12	-0.53	0.38	1.02	-43.8	32.9	87.7
3800 - 4799	32	2.12	1.01	2.85	1.10	-0.73	0.27	0.89	-49.5	18.3	61.1
4800 - 5799	1	1.26	0.00	1.74	0.00	-0.48	0.00	0.00	-38.1	0.0	0.0
*POPULATION SUMMARY											
1968-1972	18	2.44	0.91	2.49	0.91	-0.04	0.34	0.84	-8.3	16.5	40.4
1973-1974	20	2.13	0.98	3.21	1.22	-1.07	0.25	0.65	-61.6	18.5	47.9
1975	22	1.47	0.70	2.25	0.92	-0.77	0.32	0.87	-71.3	33.2	90.8
ALL VEHICLES	60	1.99	0.94	2.64	1.09	-0.65	0.19	0.89	-49.2	15.1	69.9

STATISTICAL SUMMARY OF EXHAUST EMISSIONS
90% CONFIDENCE INTERVALS (C.I.)
MILES PER GALLON (MPG)
HOT START DATA

	#OF	BASELINE		AFTER INST.		REDUCTION			PERCENT REDUCTION		
	VEH	MEAN	S.D.	MEAN	S.D.	MEAN	±C.I.	S.D.	MEAN	±C.I.	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	9	14.94	3.34	15.98	2.68	-1.04	0.73	1.19	-8.6	6.4	10.5
CHRYSLER	18	13.03	2.71	14.95	2.43	-1.91	0.43	1.05	-15.9	4.3	10.5
FORD MOTOR CO.	7	14.45	2.46	16.42	3.20	-1.96	1.24	1.73	-13.6	9.3	12.9
GENERAL MOTORS	21	13.97	2.39	15.33	2.92	-1.36	0.50	1.33	-9.7	3.3	8.8
IMPORTS	5	22.51	2.85	24.50	3.94	-1.99	1.27	1.41	-8.6	4.7	5.2
*MODEL YEAR											
1968	2	14.60	3.66	14.70	2.49	-0.10	2.42	1.17	-1.7	17.5	8.5
1969	4	14.13	1.29	15.31	1.81	-1.19	0.87	0.81	-8.3	6.1	5.7
1970	8	16.07	2.69	18.11	2.55	-2.04	1.18	1.79	-13.7	8.4	12.8
1971	3	11.79	0.49	13.74	2.03	-1.96	2.68	1.97	-16.6	23.0	16.9
1972	1	19.32	0.00	20.16	0.00	-0.84	0.00	0.00	-4.3	0.0	0.0
1973	14	12.33	2.60	14.31	2.29	-1.98	0.49	1.04	-17.4	5.1	10.8
1974	6	19.09	4.35	20.90	5.35	-1.80	0.91	1.15	-9.0	2.7	3.5
1975	22	14.55	3.47	15.89	3.82	-1.34	0.46	1.27	-9.5	3.1	8.4
*VEHICLE TYPE											
AUTOMOBILE	52	14.92	3.67	16.40	3.96	-1.48	0.30	1.27	-10.4	2.1	9.1
TRUCK	8	12.56	2.34	14.94	1.92	-2.38	0.84	1.28	-20.5	8.2	12.4
*VEHICLE OWNER											
GSA	21	13.98	3.25	15.61	2.70	-1.63	0.47	1.26	-13.5	4.4	11.7
PRIVATE OWNER	39	14.94	3.77	16.53	4.24	-1.59	0.36	1.33	-10.8	2.5	9.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	13.36	1.75	15.29	3.51	-1.93	1.66	1.84	-13.4	9.8	10.9
CNV/NO A.PMP	13	13.37	2.05	14.41	2.00	-1.04	0.54	1.09	-8.3	4.2	8.5
A.PMP/NO CNV	13	15.65	4.54	17.40	4.32	-1.75	0.53	1.07	-12.9	5.1	10.3
NO CNV/NO APMP	29	14.90	3.82	16.63	4.01	-1.73	0.43	1.36	-12.6	3.4	10.6
*DISPLACEMENT											
LESS THAN 151	8	20.69	3.41	22.81	3.85	-2.12	1.09	1.66	-10.6	6.1	9.3
151 - 250	13	17.21	1.66	18.53	1.70	-1.32	0.67	1.37	-8.0	4.2	8.5
251 - 350	23	13.21	1.47	14.63	1.86	-1.42	0.44	1.24	-11.0	3.5	9.9
MORE THAN 350	16	11.44	0.90	13.27	0.93	-1.83	0.48	1.11	-16.6	4.8	10.9
*INERTIA WEIGHT											
1800 - 2799	6	19.80	3.46	22.55	3.85	-2.74	1.35	1.70	-14.4	8.0	10.0
2800 - 3799	21	16.70	3.28	18.12	3.20	-1.41	0.47	1.26	-9.2	3.4	9.0
3800 - 4799	32	12.34	1.40	13.84	1.39	-1.50	0.36	1.19	-12.8	3.2	10.8
4800 - 5799	1	11.52	0.00	13.51	0.00	-1.99	0.00	0.00	-17.3	0.0	0.0
*POPULATION SUMMARY											
1968-1972	18	14.94	2.78	16.49	2.86	-1.55	0.64	1.56	-11.1	4.7	11.6
1973-1974	20	14.36	4.44	16.29	4.55	-1.93	0.40	1.04	-14.9	3.8	10.0
1975	22	14.55	3.47	15.89	3.82	-1.34	0.46	1.27	-9.5	3.1	8.4
ALL VEHICLES	60	14.60	3.60	16.20	3.78	-1.60	0.28	1.30	-11.8	2.2	10.1

APPENDIX J

TABLES OF TEST RESULTS

ALL VEHICLES PAGE J-2
1968-1972 PAGE J-6
1973-1974 PAGE J-10
1975 PAGE J-14
STATISICAL SUMMARY PAGE J-18

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(ALL VEHICLES--COLD START DATA)
(BASELINE)

	# OF VEH.	HC MEAN	HC S.D.	CO MEAN	CO S.D.	CO2 MEAN	CO2 S.D.	NOX MEAN	NOX S.D.	MPG MEAN	MPG S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	3	6.62	4.6	121.77	46.5	571.7	151.6	1.51	.51	12.1	4.0
CHRYSLER	12	4.78	1.5	89.00	25.2	611.5	111.6	2.99	1.02	11.9	2.0
FORD MOTOR CO.	4	5.97	4.3	64.98	39.7	616.3	108.5	3.18	1.58	12.1	0.9
GENERAL MOTORS	21	3.52	3.2	67.34	40.7	563.9	113.9	1.58	.59	13.3	2.2
IMPORTS	3	2.47	2.3	41.06	29.7	350.8	10.2	1.45	.35	21.2	2.6
*MODEL YEAR											
1968	1	6.84	0.0	161.97	0.0	492.4	0.0	2.34	0.00	11.6	0.0
1969	3	9.72	4.4	121.49	28.1	486.1	65.1	2.88	1.24	12.5	0.5
1970	4	9.30	2.2	111.70	28.0	478.9	99.6	2.51	1.07	13.4	2.7
1971	2	5.38	1.9	93.53	51.1	640.6	109.6	3.27	.52	11.0	0.3
1972	1	3.22	0.0	51.96	0.0	405.2	0.0	2.73	0.00	17.9	0.0
1973	9	4.89	1.3	92.31	24.5	626.5	147.4	2.69	1.43	11.9	3.2
1974	1	5.39	0.0	89.26	0.0	574.4	0.0	2.02	0.00	12.1	0.0
1975	22	2.09	0.8	49.92	27.7	574.9	119.8	1.56	.69	14.1	3.4
*VEHICLE TYPE											
AUTOMOBILE	35	4.31	3.3	76.44	40.7	552.8	123.7	2.08	1.11	13.5	3.3
TRUCK	8	3.97	1.8	69.40	34.5	633.4	113.2	2.27	.94	12.2	2.4
*VEHICLE OWNER											
GSA	10	4.42	1.5	81.98	32.2	628.0	128.6	2.41	1.06	12.0	2.7
PRIVATE OWNER	33	4.19	3.4	73.05	41.4	549.5	119.3	2.02	1.08	13.7	3.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	1.53	0.7	19.26	12.0	664.5	85.2	1.77	1.01	12.8	1.7
CNV/NO A.PMP	13	2.33	0.6	62.33	23.4	596.9	83.3	1.28	.23	12.9	2.0
A.PMP/NO CNV	10	5.23	4.1	84.06	43.4	491.1	164.9	2.29	.77	15.2	4.9
NO CNV/NO APMP	15	6.15	2.5	98.88	31.4	561.4	112.7	2.83	1.22	12.4	2.5
*DISPLACEMENT											
LESS THAN 151	5	2.33	1.8	38.43	24.6	399.5	82.2	1.55	.78	19.4	3.2
151 - 250	6	3.80	2.1	65.40	22.9	450.8	83.5	2.06	1.04	15.8	1.5
251 - 350	22	4.69	3.7	78.80	37.8	581.8	79.7	2.10	1.20	12.4	1.3
MORE THAN 350	10	4.48	2.1	91.22	46.7	691.1	92.1	2.45	.92	10.5	0.9
*INERTIA WEIGHT											
1800 - 2799	3	3.08	2.0	46.37	27.0	433.9	94.9	1.51	1.08	17.3	1.5
2800 - 3799	13	5.71	4.4	80.02	43.7	471.0	113.6	2.32	1.28	15.3	4.0
3800 - 4799	26	3.75	2.0	77.03	38.5	625.8	87.9	2.11	.99	11.9	1.6
4800 - 5799	1	1.50	0.0	48.41	0.0	717.4	0.0	1.33	0.00	11.1	0.0
ALL VEHICLES	43	4.24	3.0	75.13	39.3	567.8	124.6	2.11	1.08	13.3	3.1

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(ALL VEHICLES--COLD START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	3	5.18	4.6	57.13	49.3	550.6	81.8	2.83	.99	14.1	3.9
CHRYSLER	12	4.35	2.0	45.47	23.0	566.1	78.6	3.61	1.13	13.8	1.5
FORD MOTOR CO.	4	4.55	2.8	34.17	29.4	590.9	105.2	3.51	.44	13.8	2.5
GENERAL MOTORS	21	2.64	2.5	30.21	18.0	567.2	114.9	2.18	.78	14.7	2.8
IMPORTS	3	2.37	2.4	27.91	24.0	345.6	10.7	1.86	.22	22.6	2.9
*MODEL YEAR											
1968	1	6.15	0.0	52.02	0.0	623.3	0.0	3.66	0.00	12.2	0.0
1969	3	7.73	0.3	77.30	10.0	520.6	30.6	3.26	.43	13.3	0.7
1970	4	7.81	2.6	52.26	39.6	464.1	100.8	1.90	.79	16.2	3.6
1971	2	3.87	0.8	25.53	15.8	638.4	116.3	2.46	1.48	13.1	2.7
1972	1	3.34	0.0	39.77	0.0	400.1	0.0	2.98	0.00	18.8	0.0
1973	9	4.00	1.0	42.54	11.7	567.7	112.3	3.83	1.15	14.1	2.7
1974	1	8.12	0.0	87.24	0.0	495.9	0.0	2.40	0.00	13.5	0.0
1975	22	1.48	0.8	23.55	15.3	565.2	116.9	2.34	.86	15.3	3.7
*VEHICLE TYPE											
AUTOMOBILE	35	3.50	2.8	38.32	25.5	548.0	118.2	2.49	.99	15.0	3.5
TRUCK	8	3.22	1.6	28.85	14.5	572.2	76.5	3.75	.90	14.4	1.9
*VEHICLE OWNER											
GSA	10	3.60	1.3	36.74	15.2	571.5	95.0	3.89	.68	14.1	2.2
PRIVATE OWNER	33	3.41	2.9	36.50	26.3	546.7	116.4	2.37	.93	15.1	3.5
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	1.43	0.7	13.42	11.1	601.5	124.7	2.52	.87	14.7	3.4
CNV/NO A.PMP	13	1.44	0.8	28.02	14.8	600.3	84.3	2.09	.74	13.9	2.0
A.PMP/NO CNV	10	4.33	2.8	42.23	18.2	468.3	119.1	2.81	1.16	17.2	4.5
NO CNV/NO APMP	15	5.28	2.4	47.89	29.5	550.8	97.1	3.29	1.12	14.2	2.7
*DISPLACEMENT											
LESS THAN 151	5	2.45	1.8	27.22	19.5	369.0	33.1	2.04	.55	21.4	2.7
151 - 250	6	3.73	3.1	38.91	18.7	445.8	69.7	3.08	1.41	17.2	1.6
251 - 350	22	3.58	3.0	39.55	28.9	579.1	73.3	2.56	.99	13.8	1.8
MORE THAN 350	10	3.49	1.8	33.23	16.9	649.7	59.2	3.22	1.14	12.5	1.1
*INERTIA WEIGHT											
1800 - 2799	3	3.44	1.7	35.08	20.6	384.8	33.7	2.08	.78	19.7	0.9
2800 - 3799	13	4.70	3.4	42.72	31.9	465.6	94.9	2.82	1.26	17.0	4.0
3800 - 4799	26	2.93	2.1	34.37	20.2	611.8	71.4	2.79	1.04	13.3	1.5
4800 - 5799	1	0.91	0.0	17.68	0.0	643.4	0.0	1.82	0.00	13.2	0.0
ALL VEHICLES	43	3.45	2.6	36.56	24.0	552.5	111.3	2.73	1.08	14.9	3.3

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(ALL VEHICLES--COLD START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	3	1.44	0.8	64.64	23.9	21.0	79.7	-1.32	.86	-2.1	1.3
CHRYSLER	12	0.44	1.6	43.52	31.9	45.4	57.2	-0.62	1.12	-1.9	1.2
FORD MOTOR CO.	4	1.42	2.9	30.81	31.9	25.3	53.7	-0.33	1.85	-1.7	2.1
GENERAL MOTORS	21	0.88	1.7	37.13	29.9	-3.2	60.1	-0.59	.79	-1.3	1.4
IMPORTS	3	0.10	0.3	13.15	6.5	5.2	20.0	-0.42	.26	-1.4	0.8
*MODEL YEAR											
1968	1	0.69	0.0	109.95	0.0	-130.9	0.0	-1.32	0.00	-0.7	0.0
1969	3	1.99	4.6	44.19	32.1	-34.5	48.4	-0.38	.86	-0.8	0.8
1970	4	1.50	3.1	59.44	14.3	14.9	27.3	0.61	.62	-2.9	1.6
1971	2	1.51	2.8	68.00	66.8	2.2	6.6	0.82	.97	-2.1	2.4
1972	1	-0.12	0.0	12.19	0.0	5.1	0.0	-0.25	0.00	-0.9	0.0
1973	9	0.89	1.0	49.77	25.6	58.8	62.9	-1.13	.96	-2.2	1.2
1974	1	-2.73	0.0	2.02	0.0	78.5	0.0	-0.38	0.00	-1.3	0.0
1975	22	0.60	0.7	26.37	22.3	9.7	53.3	-0.78	.85	-1.2	1.3
*VEHICLE TYPE											
AUTOMOBILE	35	0.80	1.8	38.12	31.5	4.8	54.8	-0.42	.88	-1.4	1.3
TRUCK	8	0.75	1.0	40.56	24.6	61.2	61.5	-1.48	.94	-2.2	1.4
*VEHICLE OWNER											
GSA	10	0.82	1.0	45.24	25.8	56.5	63.7	-1.48	.89	-2.1	1.4
PRIVATE OWNER	33	0.78	1.8	36.55	31.3	2.8	53.2	-0.35	.85	-1.4	1.3
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	0.11	0.7	5.84	3.0	63.0	47.2	-0.76	1.37	-1.8	1.8
CNV/NO A.PMP	13	0.89	0.6	34.31	22.3	-3.4	50.0	-0.81	.70	-1.0	1.1
A.PMP/NO CNV	10	0.90	2.4	41.83	30.2	22.8	71.2	-0.52	.96	-1.9	1.2
NO CNV/NO APMP	15	0.87	2.0	51.00	33.5	10.5	58.4	-0.46	1.11	-1.8	1.4
*DISPLACEMENT											
LESS THAN 151	5	-0.13	0.5	11.22	6.0	30.5	58.3	-0.49	.33	-2.0	1.7
151 - 250	6	0.06	1.0	26.49	14.9	5.0	35.3	-1.02	1.24	-1.4	1.5
251 - 350	22	1.11	2.1	39.25	27.1	2.7	52.0	-0.46	.87	-1.3	1.2
MORE THAN 350	10	0.99	1.2	57.99	37.9	41.4	82.1	-0.77	1.24	-2.0	1.3
*INERTIA WEIGHT											
1800 - 2799	3	-0.36	0.4	11.29	6.4	49.1	71.5	-0.57	.36	-2.4	2.1
2800 - 3799	13	1.01	2.7	37.30	28.8	5.3	46.2	-0.50	1.17	-1.7	1.3
3800 - 4799	26	0.83	1.0	42.66	31.8	14.1	64.9	-0.68	.96	-1.4	1.3
4800 - 5799	1	0.59	0.0	30.73	0.0	74.0	0.0	-0.49	0.00	-2.1	0.0
ALL VEHICLES	43	0.79	1.7	38.57	30.1	15.3	59.6	-0.61	.98	-1.6	1.3

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(ALL VEHICLES--COLD START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	3	28.9	16.5	59.1	28.0	1.5	12.7	-97.7	80.8	-18.9	15.9
CHRYSLER	12	8.3	27.8	45.7	25.3	6.4	8.2	-30.3	59.4	-17.5	12.5
FORD MOTOR CO.	4	12.1	28.3	45.9	25.0	3.8	8.9	-78.9	186.8	-13.8	17.0
GENERAL MOTORS	21	25.5	36.3	51.2	21.1	-1.1	11.3	-49.5	60.1	-10.0	9.4
IMPORTS	3	6.6	19.1	38.7	13.8	1.4	5.8	-32.1	22.1	-6.6	3.4
*MODEL YEAR											
1968	1	10.1	0.0	67.9	0.0	-26.6	0.0	-56.4	0.0	-6.1	0.0
1969	3	9.7	36.9	33.8	17.5	-8.1	11.5	-22.3	34.2	-6.4	6.0
1970	4	13.2	30.7	56.8	21.8	3.1	5.1	20.9	29.6	-21.2	12.1
1971	2	20.3	43.8	62.5	37.3	0.4	1.1	27.6	33.9	-18.7	21.3
1972	1	-3.7	0.0	23.5	0.0	1.3	0.0	-9.2	0.0	-5.1	0.0
1973	9	16.5	16.6	51.5	18.2	8.2	8.6	-66.4	72.1	-20.8	13.6
1974	1	-50.6	0.0	2.3	0.0	13.7	0.0	-18.8	0.0	-11.0	0.0
1975	22	25.6	34.7	49.6	21.9	1.2	9.3	-68.1	84.8	-9.1	8.9
*VEHICLE TYPE											
AUTOMOBILE	35	18.3	33.4	47.8	22.8	0.2	9.9	-40.0	73.5	-11.2	10.5
TRUCK	8	18.4	23.4	53.5	19.7	8.7	8.8	-88.7	81.4	-19.8	13.7
*VEHICLE OWNER											
GSA	10	18.7	22.7	53.7	16.5	7.8	9.2	-92.4	81.1	-19.8	14.5
PRIVATE OWNER	33	18.3	34.1	47.4	23.6	-0.0	9.9	-35.9	71.1	-10.7	9.7
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	-0.5	53.1	35.0	22.4	10.2	8.9	-99.1	157.9	-13.1	11.1
CNV/NO A.PMP	13	39.2	22.2	54.2	20.7	-0.9	8.3	-65.6	56.4	-8.4	9.1
A.PMP/NO CNV	10	10.5	22.6	46.5	15.0	2.3	11.5	-31.6	63.5	-15.2	13.0
NO CNV/NO APMP	15	11.8	28.4	50.5	26.8	1.0	10.6	-29.7	57.6	-15.0	12.5
*DISPLACEMENT											
LESS THAN 151	5	-13.2	41.0	33.1	12.4	6.0	11.1	-49.3	54.6	-11.3	11.5
151 - 250	6	10.8	28.4	42.1	20.4	0.6	6.7	-70.2	93.1	-9.3	10.3
251 - 350	22	24.9	29.7	48.8	24.8	-0.1	9.3	-42.4	78.5	-11.0	10.2
MORE THAN 350	10	24.1	25.4	61.1	15.2	4.7	13.2	-50.8	79.7	-19.6	13.7
*INERTIA WEIGHT											
1800 - 2799	3	-29.5	45.5	24.7	1.4	9.5	12.9	-65.4	68.1	-14.9	14.3
2800 - 3799	13	10.9	29.0	46.6	24.2	0.1	9.3	-44.9	102.3	-12.2	9.6
3800 - 4799	26	26.8	26.6	52.3	21.2	1.4	10.4	-49.7	66.2	-12.7	12.6
4800 - 5799	1	39.3	0.0	63.5	0.0	10.3	0.0	-36.8	0.0	-18.4	0.0
ALL VEHICLES	43	18.4	31.5	48.9	22.2	1.8	10.2	-49.0	76.4	-12.8	11.5

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES--COLD START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	11.46	0.0	153.54	0.0	576.0	0.0	1.53	0.00	10.4	0.0
CHRYSLER	2	6.60	0.2	125.43	5.9	545.4	25.0	2.60	.43	11.6	0.5
FORD MOTOR CO.	3	7.62	3.4	82.69	21.9	587.7	113.0	3.96	.33	12.0	1.1
GENERAL MOTORS	5	7.93	4.2	111.96	44.5	424.6	58.3	2.34	.39	14.6	2.7
IMPORTS	0										
*MODEL YEAR											
1968	1	6.84	0.0	161.97	0.0	492.4	0.0	2.34	0.00	11.6	0.0
1969	3	9.72	4.4	121.49	28.1	486.1	65.1	2.88	1.24	12.5	0.5
1970	4	9.30	2.2	111.70	28.0	478.9	99.6	2.51	1.07	13.4	2.7
1971	2	5.38	1.9	93.53	51.1	640.6	109.6	3.27	.52	11.0	0.3
1972	1	3.22	0.0	51.96	0.0	405.2	0.0	2.73	0.00	17.9	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	7.93	3.3	110.21	36.8	504.8	100.5	2.76	.88	13.0	2.4
TRUCK	0										
*VEHICLE OWNER											
GSA	1	4.03	0.0	57.43	0.0	718.1	0.0	3.64	0.00	10.8	0.0
PRIVATE OWNER	10	8.32	3.2	115.48	34.1	483.5	75.2	2.67	.87	13.2	2.4
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	8.20	4.8	99.45	40.0	407.6	51.1	2.34	.45	15.3	2.4
NO CNV/NO APMP	7	7.77	2.6	116.35	36.6	560.3	74.9	2.99	1.00	11.6	0.9
*DISPLACEMENT											
LESS THAN 151	1	3.22	0.0	51.96	0.0	405.2	0.0	2.73	0.00	17.9	0.0
151 - 250	1	7.94	0.0	101.14	0.0	344.6	0.0	1.87	0.00	16.8	0.0
251 - 350	6	9.74	3.1	118.35	27.7	504.9	57.0	2.80	1.09	12.4	1.1
MORE THAN 350	3	5.87	1.6	116.35	53.5	591.2	115.4	2.96	.65	11.2	0.4
*INERTIA WEIGHT											
1800 - 2799	1	3.22	0.0	51.96	0.0	405.2	0.0	2.73	0.00	17.9	0.0
2800 - 3799	5	10.38	3.0	119.29	29.6	465.4	91.4	2.42	.95	13.3	2.3
3800 - 4799	5	6.42	1.5	112.77	39.4	564.1	89.7	3.10	.86	11.7	0.8
4800 - 5799	0										
ALL VEHICLES	11	7.93	3.3	110.21	36.8	504.8	100.5	2.76	.88	13.0	2.4

AUTOMOTIVE TESTING LABORATORIES,INC.
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EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES--COLD START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	10.33	0.0	108.74	0.0	584.9	0.0	1.85	0.00	11.2	0.0
CHRYSLER	2	5.64	3.3	51.46	52.4	535.0	29.9	2.14	1.04	14.1	1.4
FORD MOTOR CO.	3	5.74	1.7	43.47	27.9	582.0	126.9	3.38	.43	13.7	3.1
GENERAL MOTORS	5	6.56	2.3	48.35	14.2	463.5	107.4	2.53	1.09	16.4	3.2
IMPORTS	0										
*MODEL YEAR											
1968	1	6.15	0.0	52.02	0.0	623.3	0.0	3.66	0.00	12.2	0.0
1969	3	7.73	0.3	77.30	10.0	520.6	30.6	3.26	.43	13.3	0.7
1970	4	7.81	2.6	52.26	39.6	464.1	100.8	1.90	.79	16.2	3.6
1971	2	3.87	0.8	25.53	15.8	638.4	116.3	2.46	1.48	13.1	2.7
1972	1	3.34	0.0	39.77	0.0	400.1	0.0	2.98	0.00	18.8	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	6.51	2.4	53.07	29.3	519.8	105.6	2.63	.95	14.8	3.0
TRUCK	0										
*VEHICLE OWNER											
GSA	1	4.46	0.0	36.68	0.0	720.6	0.0	3.51	0.00	11.2	0.0
PRIVATE OWNER	10	6.72	2.4	54.71	30.4	499.8	86.3	2.54	.95	15.1	2.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	6.66	2.6	47.43	16.3	423.5	68.8	2.25	1.02	17.4	2.5
NO CNV/NO APMP	7	6.43	2.4	56.30	35.6	574.9	80.5	2.85	.91	13.2	2.2
*DISPLACEMENT											
LESS THAN 151	1	3.34	0.0	39.77	0.0	400.1	0.0	2.98	0.00	18.8	0.0
151 - 250	1	9.63	0.0	49.33	0.0	338.4	0.0	0.96	0.00	19.9	0.0
251 - 350	6	7.46	1.8	65.27	33.9	513.3	48.1	2.74	.73	14.2	2.3
MORE THAN 350	3	4.63	1.4	34.36	18.9	633.4	82.7	2.86	1.26	12.8	2.0
*INERTIA WEIGHT											
1800 - 2799	1	3.34	0.0	39.77	0.0	400.1	0.0	2.98	0.00	18.8	0.0
2800 - 3799	5	7.73	2.2	55.65	35.1	470.1	88.3	2.16	.89	15.8	3.3
3800 - 4799	5	5.93	2.0	53.15	29.4	593.6	81.1	3.04	.97	12.9	1.4
4800 - 5799	0										
ALL VEHICLES	11	6.51	2.4	53.07	29.3	519.8	105.6	2.63	.95	14.8	3.0

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EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES--COLD START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	1.13	0.0	44.80	0.0	-8.9	0.0	-0.32	0.00	-0.9	0.0
CHRYSLER	2	0.96	3.5	73.97	58.4	10.4	4.9	0.46	1.47	-2.4	1.9
FORD MOTOR CO.	3	1.88	3.4	39.23	33.2	5.7	45.0	0.58	.45	-1.7	2.6
GENERAL MOTORS	5	1.37	3.4	63.61	36.1	-38.9	64.3	-0.19	1.04	-1.8	1.1
IMPORTS	0										
*MODEL YEAR											
1968	1	0.69	0.0	109.95	0.0	-130.9	0.0	-1.32	0.00	-0.7	0.0
1969	3	1.99	4.6	44.19	32.1	-34.5	48.4	-0.38	.86	-0.8	0.8
1970	4	1.50	3.1	59.44	14.3	14.9	27.3	0.61	.62	-2.9	1.6
1971	2	1.51	2.8	68.00	66.8	2.2	6.6	0.82	.97	-2.1	2.4
1972	1	-0.12	0.0	12.19	0.0	5.1	0.0	-0.25	0.00	-0.9	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	1.41	2.9	57.13	35.7	-15.0	51.1	0.12	.92	-1.8	1.6
TRUCK	0										
*VEHICLE OWNER											
GSA	1	-0.43	0.0	20.75	0.0	-2.5	0.0	0.13	0.00	-0.4	0.0
PRIVATE OWNER	10	1.60	3.0	60.77	35.4	-16.3	53.7	0.12	.97	-1.9	1.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	1.54	3.9	52.02	29.0	-15.9	44.6	0.09	.96	-2.1	1.1
NO CNV/NO APMP	7	1.34	2.5	60.05	40.9	-14.6	57.9	0.14	.97	-1.6	1.8
*DISPLACEMENT											
LESS THAN 151	1	-0.12	0.0	12.19	0.0	5.1	0.0	-0.25	0.00	-0.9	0.0
151 - 250	1	-1.69	0.0	51.81	0.0	6.2	0.0	0.91	0.00	-3.1	0.0
251 - 350	6	2.27	3.4	53.09	24.8	-8.4	46.7	0.07	.86	-1.8	1.7
MORE THAN 350	3	1.24	2.0	81.98	53.1	-42.2	77.0	0.10	1.41	-1.6	1.9
*INERTIA WEIGHT											
1800 - 2799	1	-0.12	0.0	12.19	0.0	5.1	0.0	-0.25	0.00	-0.9	0.0
2800 - 3799	5	2.64	3.7	63.64	15.6	-4.7	49.7	0.26	.94	-2.6	1.5
3800 - 4799	5	0.49	1.9	59.62	48.7	-29.4	59.7	0.06	1.08	-1.2	1.5
4800 - 5799	0										
ALL VEHICLES	11	1.41	2.9	57.13	35.7	-15.0	51.1	0.12	.92	-1.8	1.6

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1968-1972 VEHICLES--COLD START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	9.9	0.0	29.2	0.0	-1.5	0.0	-20.9	0.0	-8.2	0.0
CHRYSLER	2	13.8	53.1	57.9	43.8	1.9	1.0	13.2	54.3	-21.3	17.6
FORD MOTOR CO.	3	15.5	33.7	45.6	30.6	1.1	8.6	14.3	11.4	-13.5	20.8
GENERAL MOTORS	5	9.0	26.0	52.7	18.0	-8.4	13.9	-8.4	47.9	-12.2	7.1
IMPORTS	0										
*MODEL YEAR											
1968	1	10.1	0.0	67.9	0.0	-26.6	0.0	-56.4	0.0	-6.1	0.0
1969	3	9.7	36.9	33.8	17.5	-8.1	11.5	-22.3	34.2	-6.4	6.0
1970	4	13.2	30.7	56.8	21.8	3.1	5.1	20.9	29.6	-21.2	12.1
1971	2	20.3	43.8	62.5	37.3	0.4	1.1	27.6	33.9	-18.7	21.3
1972	1	-3.7	0.0	23.5	0.0	1.3	0.0	-9.2	0.0	-5.1	0.0
1973	0										
1974	0										
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	11	11.7	28.1	49.6	24.0	-3.3	10.8	0.6	37.6	-13.9	12.4
TRUCK	0										
*VEHICLE OWNER											
GSA	1	-10.7	0.0	36.1	0.0	-0.3	0.0	3.6	0.0	-3.6	0.0
PRIVATE OWNER	10	14.0	28.6	50.9	24.8	-3.6	11.3	0.3	39.6	-14.9	12.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	8.8	30.0	48.9	18.3	-3.9	10.9	3.6	45.8	-13.7	7.2
NO CNV/NO APMP	7	13.4	29.2	50.0	28.1	-3.0	11.6	-1.1	36.0	-13.9	15.2
*DISPLACEMENT											
LESS THAN 151	1	-3.7	0.0	23.5	0.0	1.3	0.0	-9.2	0.0	-5.1	0.0
151 - 250	1	-21.3	0.0	51.2	0.0	1.8	0.0	48.7	0.0	-18.4	0.0
251 - 350	6	17.2	29.3	46.2	24.2	-2.3	10.4	-5.3	33.7	-14.2	13.2
MORE THAN 350	3	16.9	31.6	64.3	26.6	-8.6	15.6	-0.4	54.1	-14.5	16.7
*INERTIA WEIGHT											
1800 - 2799	1	-3.7	0.0	23.5	0.0	1.3	0.0	-9.2	0.0	-5.1	0.0
2800 - 3799	5	20.4	31.1	56.2	18.9	-1.6	11.3	5.8	42.5	-19.1	11.5
3800 - 4799	5	6.1	28.5	48.1	29.1	-5.9	12.1	-2.7	40.7	-10.4	13.5
4800 - 5799	0										
ALL VEHICLES	11	11.7	28.1	49.6	24.0	-3.3	10.8	0.6	37.6	-13.9	12.4

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES--COLD START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	6.16	0.0	143.38	0.0	721.1	0.0	1.00	0.00	9.2	0.0
CHRYSLER	8	4.78	1.3	88.32	15.1	641.8	115.2	3.02	1.23	11.4	2.1
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	5.03	0.0	70.11	0.0	356.7	0.0	1.11	0.00	18.4	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	9	4.89	1.3	92.31	24.5	626.5	147.4	2.69	1.43	11.9	3.2
1974	1	5.39	0.0	89.26	0.0	574.4	0.0	2.02	0.00	12.1	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	4.54	1.3	89.15	27.9	557.0	141.9	2.68	1.71	13.1	3.4
TRUCK	4	5.53	0.7	96.29	16.5	717.7	67.2	2.55	.82	10.1	0.8
*VEHICLE OWNER											
GSA	6	5.35	1.0	100.96	25.6	668.9	131.8	2.39	.96	10.9	2.6
PRIVATE OWNER	4	4.32	1.4	78.56	10.8	549.7	135.7	2.98	1.94	13.4	3.3
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	4.27	1.6	97.44	33.5	646.3	154.4	2.58	1.06	11.5	3.1
NO CNV/NO APMP	6	5.39	0.6	88.37	15.8	604.6	141.8	2.65	1.63	12.2	3.2
*DISPLACEMENT											
LESS THAN 151	1	5.03	0.0	70.11	0.0	356.7	0.0	1.11	0.00	18.4	0.0
151 - 250	1	3.82	0.0	77.24	0.0	421.9	0.0	3.15	0.00	16.0	0.0
251 - 350	3	5.44	0.9	90.48	4.7	595.5	22.2	3.39	1.92	11.8	0.5
MORE THAN 350	5	4.85	1.5	100.25	30.6	729.5	35.2	2.37	1.08	9.9	0.8
*INERTIA WEIGHT											
1800 - 2799	1	5.03	0.0	70.11	0.0	356.7	0.0	1.11	0.00	18.4	0.0
2800 - 3799	3	4.58	0.8	84.34	6.3	530.0	94.1	3.59	1.82	13.3	2.3
3800 - 4799	6	5.11	1.5	99.48	27.4	711.0	55.1	2.40	.97	10.1	0.9
4800 - 5799	0										
ALL VEHICLES	10	4.94	1.2	92.00	23.2	621.2	139.9	2.63	1.36	11.9	3.0

AUTOMOTIVE TESTING LABORATORIES, INC.
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EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES--COLD START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	3.86	0.0	52.14	0.0	609.7	0.0	2.82	0.00	12.6	0.0
CHRYSLER	8	4.38	1.8	45.63	20.1	581.1	87.7	4.05	.95	13.5	1.6
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	5.17	0.0	52.90	0.0	346.2	0.0	1.62	0.00	19.9	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	9	4.00	1.0	42.54	11.7	567.7	112.3	3.83	1.15	14.1	2.7
1974	1	8.12	0.0	87.24	0.0	495.9	0.0	2.40	0.00	13.5	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	4.35	2.1	54.59	18.3	525.0	121.5	3.31	1.37	14.6	3.0
TRUCK	4	4.51	0.6	35.63	10.8	613.8	65.4	4.24	.58	13.1	1.4
*VEHICLE OWNER											
GSA	6	4.22	0.6	42.36	13.6	582.8	89.6	4.06	.77	13.6	1.8
PRIVATE OWNER	4	4.69	2.6	53.97	23.4	527.0	139.0	3.11	1.56	14.7	3.5
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	3.68	1.4	50.45	7.6	574.6	99.6	3.79	.92	13.5	2.0
NO CNV/NO APMP	6	4.90	1.7	44.71	23.0	551.1	122.0	3.61	1.40	14.3	2.9
*DISPLACEMENT											
LESS THAN 151	1	5.17	0.0	52.90	0.0	346.2	0.0	1.62	0.00	19.9	0.0
151 - 250	1	3.46	0.0	59.50	0.0	432.0	0.0	4.60	0.00	16.5	0.0
251 - 350	3	5.29	2.5	50.14	32.3	543.1	54.5	3.71	1.43	13.9	1.0
MORE THAN 350	5	3.92	1.2	41.45	10.4	639.5	35.7	3.90	.86	12.4	0.4
*INERTIA WEIGHT											
1800 - 2799	1	5.17	0.0	52.90	0.0	346.2	0.0	1.62	0.00	19.9	0.0
2800 - 3799	3	5.01	2.7	60.47	26.3	510.2	86.2	4.08	1.49	14.4	1.8
3800 - 4799	6	3.98	1.1	39.29	10.7	621.4	54.7	3.83	.79	12.8	1.1
4800 - 5799	0										
ALL VEHICLES	10	4.41	1.6	47.01	17.9	560.5	108.3	3.68	1.17	14.0	2.5

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EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES--COLD START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	2.30	0.0	91.24	0.0	111.4	0.0	-1.82	0.00	-3.4	0.0
CHRYSLER	8	0.39	1.5	42.69	24.9	60.7	62.1	-1.03	1.00	-2.0	1.2
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	-0.14	0.0	17.21	0.0	10.5	0.0	-0.51	0.00	-1.5	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	9	0.89	1.0	49.77	25.6	58.8	62.9	-1.13	.96	-2.2	1.2
1974	1	-2.73	0.0	2.02	0.0	78.5	0.0	-0.38	0.00	-1.3	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	0.20	1.7	34.56	32.3	32.0	50.7	-0.63	.84	-1.5	1.0
TRUCK	4	1.03	1.2	60.65	12.3	103.9	47.7	-1.69	.74	-3.0	0.8
*VEHICLE OWNER											
GSA	6	1.13	1.1	58.60	25.3	86.1	60.0	-1.67	.59	-2.7	1.2
PRIVATE OWNER	4	-0.37	1.7	24.59	20.9	22.7	38.4	-0.13	.39	-1.3	0.3
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	0.59	1.2	47.00	32.8	71.7	86.7	-1.20	.83	-2.1	1.6
NO CNV/NO APMP	6	0.49	1.7	43.66	28.5	53.5	41.7	-0.96	1.07	-2.1	1.0
*DISPLACEMENT											
LESS THAN 151	1	-0.14	0.0	17.21	0.0	10.5	0.0	-0.51	0.00	-1.5	0.0
151 - 250	1	0.36	0.0	17.74	0.0	-10.1	0.0	-1.45	0.00	-0.6	0.0
251 - 350	3	0.14	2.5	40.34	34.1	52.4	53.5	-0.32	.64	-2.2	1.4
MORE THAN 350	5	0.93	1.1	58.80	24.7	90.0	59.8	-1.53	.99	-2.5	1.1
*INERTIA WEIGHT											
1800 - 2799	1	-0.14	0.0	17.21	0.0	10.5	0.0	-0.51	0.00	-1.5	0.0
2800 - 3799	3	-0.43	2.0	23.87	25.5	19.8	50.9	-0.49	.91	-1.1	0.5
3800 - 4799	6	1.12	1.1	60.19	22.4	89.6	53.5	-1.43	.91	-2.7	1.1
4800 - 5799	0										
ALL VEHICLES	10	0.53	1.5	45.00	28.5	60.8	59.7	-1.06	.94	-2.1	1.2

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1973-1974 VEHICLES--COLD START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	37.3	0.0	63.6	0.0	15.4	0.0	-182.0	0.0	-37.2	0.0
CHRYSLER	8	7.9	27.6	47.2	24.0	8.6	8.8	-48.6	62.7	-19.1	12.6
FORD MOTOR CO.	0										
GENERAL MOTORS	0										
IMPORTS	1	-2.8	0.0	24.5	0.0	2.9	0.0	-45.9	0.0	-8.3	0.0
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	9	16.5	16.6	51.5	18.2	8.2	8.6	-66.4	72.1	-20.8	13.6
1974	1	-50.6	0.0	2.3	0.0	13.7	0.0	-18.8	0.0	-11.0	0.0
1975	0										
*VEHICLE TYPE											
AUTOMOBILE	6	5.1	30.5	35.5	23.6	5.0	7.7	-47.7	69.5	-13.1	12.1
TRUCK	4	16.8	20.7	63.2	8.2	14.4	5.9	-82.7	74.2	-29.9	7.1
*VEHICLE OWNER											
GSA	6	19.0	18.6	56.6	17.6	11.8	8.3	-93.1	73.6	-26.7	13.0
PRIVATE OWNER	4	-4.0	32.9	31.7	24.4	4.2	6.6	-14.5	23.6	-9.5	1.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	0										
CNV/NO A.PMP	0										
A.PMP/NO CNV	4	11.9	20.6	44.5	17.3	9.3	11.8	-69.9	78.4	-21.3	18.3
NO CNV/NO APMP	6	8.4	31.5	48.0	27.9	8.3	6.3	-56.2	70.3	-18.9	10.4
*DISPLACEMENT											
LESS THAN 151	1	-2.8	0.0	24.5	0.0	2.9	0.0	-45.9	0.0	-8.3	0.0
151 - 250	1	9.4	0.0	23.0	0.0	-2.4	0.0	-46.0	0.0	-3.5	0.0
251 - 350	3	1.9	45.7	44.1	36.6	8.8	8.9	-16.3	21.4	-18.7	13.1
MORE THAN 350	5	17.1	19.1	57.2	11.4	12.1	7.8	-95.2	87.2	-26.0	12.5
*INERTIA WEIGHT											
1800 - 2799	1	-2.8	0.0	24.5	0.0	2.9	0.0	-45.9	0.0	-8.3	0.0
2800 - 3799	3	-5.9	39.4	28.4	29.2	3.2	9.0	-19.5	26.2	-8.6	4.4
3800 - 4799	6	19.7	18.3	59.4	11.5	12.4	7.0	-85.4	81.6	-27.3	11.6
4800 - 5799	0										
ALL VEHICLES	10	9.8	26.4	46.6	23.2	8.7	8.3	-61.7	69.6	-19.8	13.2

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS BEFORE MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	2.25	0.0	68.40	0.0	417.9	0.0	2.01	0.00	16.7	0.0
CHRYSLER	2	2.99	0.4	55.28	21.0	556.2	146.3	3.28	.36	13.8	2.4
FORD MOTOR CO.	1	1.00	0.0	11.83	0.0	702.0	0.0	0.85	0.00	12.3	0.0
GENERAL MOTORS	16	2.14	0.7	53.40	28.4	607.5	88.8	1.35	.41	13.0	2.0
IMPORTS	2	1.19	0.7	26.53	22.3	347.9	12.5	1.61	.28	22.6	1.4
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	22	2.09	0.8	49.92	27.7	574.9	119.8	1.56	.69	14.1	3.4
*VEHICLE TYPE											
AUTOMOBILE	18	2.02	0.7	51.56	28.8	580.7	128.1	1.46	.58	14.0	3.7
TRUCK	4	2.40	0.9	42.52	24.2	549.1	80.1	1.99	1.09	14.3	1.1
*VEHICLE OWNER											
GSA	3	2.70	0.8	52.20	17.7	516.1	55.8	2.05	1.33	14.7	0.9
PRIVATE OWNER	19	1.99	0.7	49.56	29.4	584.2	125.4	1.48	.57	14.0	3.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	1.53	0.7	19.26	12.0	664.5	85.2	1.77	1.01	12.8	1.7
CNV/NO A.PMP	13	2.33	0.6	62.33	23.4	596.9	83.3	1.28	.23	12.9	2.0
A.PMP/NO CNV	2	1.19	0.7	26.53	22.3	347.9	12.5	1.61	.28	22.6	1.4
NO CNV/NO APMP	2	2.77	0.7	69.27	1.2	435.3	24.7	2.77	1.08	16.1	0.8
*DISPLACEMENT											
LESS THAN 151	3	1.13	0.5	23.37	16.7	411.9	111.1	1.30	.57	20.3	4.2
151 - 250	4	2.76	0.7	53.51	14.7	484.6	77.8	1.84	1.16	15.5	1.9
251 - 350	13	2.19	0.6	57.85	29.8	614.2	74.5	1.48	.58	12.6	1.5
MORE THAN 350	2	1.49	0.0	30.99	24.6	745.1	39.2	1.88	.78	11.1	0.0
*INERTIA WEIGHT											
1800 - 2799	1	1.00	0.0	17.04	0.0	539.8	0.0	0.68	0.00	15.6	0.0
2800 - 3799	5	1.71	0.9	38.14	26.2	441.1	149.0	1.46	.46	18.5	4.4
3800 - 4799	15	2.32	0.6	56.14	28.1	612.4	75.9	1.66	.77	12.7	1.4
4800 - 5799	1	1.50	0.0	48.41	0.0	717.4	0.0	1.33	0.00	11.1	0.0
ALL VEHICLES	22	2.09	0.8	49.92	27.7	574.9	119.8	1.56	.69	14.1	3.4

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

EXHAUST EMISSIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	1.36	0.0	10.52	0.0	457.3	0.0	3.82	0.00	18.6	0.0
CHRYSLER	2	2.90	0.9	38.87	9.3	537.3	89.0	3.33	.81	14.7	1.7
FORD MOTOR CO.	1	0.98	0.0	6.27	0.0	617.8	0.0	3.90	0.00	14.1	0.0
GENERAL MOTORS	16	1.41	0.7	24.55	15.3	599.6	99.1	2.07	.67	14.2	2.5
IMPORTS	2	0.96	0.4	15.42	14.5	345.3	15.1	1.98	.08	23.9	2.5
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	22	1.48	0.8	23.55	15.3	565.2	116.9	2.34	.86	15.3	3.7
*VEHICLE TYPE											
AUTOMOBILE	18	1.38	0.7	23.88	15.6	572.9	125.3	2.13	.71	15.2	4.1
TRUCK	4	1.93	1.1	22.06	15.8	530.5	69.0	3.27	.96	15.6	1.4
*VEHICLE OWNER											
GSA	3	2.06	1.3	25.53	17.3	499.2	35.1	3.68	.59	16.3	0.8
PRIVATE OWNER	19	1.39	0.7	23.24	15.4	575.6	122.3	2.13	.69	15.1	4.0
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	1.43	0.7	13.42	11.1	601.5	124.7	2.52	.87	14.7	3.4
CNV/NO A.PMP	13	1.44	0.8	28.02	14.8	600.3	84.3	2.09	.74	13.9	2.0
A.PMP/NO CNV	2	0.96	0.4	15.42	14.5	345.3	15.1	1.98	.08	23.9	2.5
NO CNV/NO APMP	2	2.44	1.5	27.98	24.7	465.8	12.1	3.86	.06	17.2	1.9
*DISPLACEMENT											
LESS THAN 151	3	1.25	0.6	14.47	10.4	366.3	37.9	1.87	.21	22.8	2.7
151 - 250	4	2.33	1.2	31.16	18.1	476.0	54.5	3.23	1.02	16.7	1.1
251 - 350	13	1.40	0.6	25.24	15.2	617.8	61.9	2.21	.81	13.6	1.7
MORE THAN 350	2	0.71	0.3	10.99	9.5	699.9	80.0	2.06	.34	12.4	1.1
*INERTIA WEIGHT											
1800 - 2799	1	1.82	0.0	12.58	0.0	408.2	0.0	1.64	0.00	20.5	0.0
2800 - 3799	5	1.48	1.0	19.14	18.1	434.5	113.0	2.72	1.05	19.7	4.4
3800 - 4799	15	1.50	0.8	26.15	15.2	614.0	77.4	2.29	.83	13.6	1.6
4800 - 5799	1	0.91	0.0	17.68	0.0	643.4	0.0	1.82	0.00	13.2	0.0
ALL VEHICLES	22	1.48	0.8	23.55	15.3	565.2	116.9	2.34	.86	15.3	3.7

EXHAUST EMISSION REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	0.89	0.0	57.88	0.0	-39.4	0.0	-1.81	0.00	-1.9	0.0
CHRYSLER	2	0.09	0.4	16.41	11.7	19.0	57.3	-0.05	.45	-0.9	0.6
FORD MOTOR CO.	1	0.02	0.0	5.56	0.0	84.2	0.0	-3.05	0.00	-1.8	0.0
GENERAL MOTORS	16	0.73	0.7	28.85	23.2	7.9	56.2	-0.72	.68	-1.2	1.4
IMPORTS	2	0.22	0.4	11.11	7.8	2.6	27.6	-0.37	.35	-1.3	1.1
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	22	0.60	0.7	26.37	22.3	9.7	53.3	-0.78	.85	-1.2	1.3
*VEHICLE TYPE											
AUTOMOBILE	18	0.63	0.7	27.68	23.9	7.8	56.4	-0.67	.76	-1.2	1.3
TRUCK	4	0.46	0.7	20.46	13.7	18.5	41.4	-1.27	1.17	-1.3	1.5
*VEHICLE OWNER											
GSA	3	0.64	0.8	26.67	7.0	16.9	50.5	-1.63	1.13	-1.6	1.7
PRIVATE OWNER	19	0.60	0.7	26.32	24.0	8.6	55.0	-0.65	.74	-1.2	1.2
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	0.11	0.7	5.84	3.0	63.0	47.2	-0.76	1.37	-1.8	1.8
CNV/NO A.PMP	13	0.89	0.6	34.31	22.3	-3.4	50.0	-0.81	.70	-1.0	1.1
A.PMP/NO CNV	2	0.22	0.4	11.11	7.8	2.6	27.6	-0.37	.35	-1.3	1.1
NO CNV/NO APMP	2	0.34	0.8	41.29	23.5	-30.5	12.6	-1.08	1.03	-1.2	1.0
*DISPLACEMENT											
LESS THAN 151	3	-0.12	0.7	8.90	6.7	45.6	77.0	-0.57	.42	-2.5	2.2
151 - 250	4	0.43	0.8	22.34	10.4	8.5	44.5	-1.39	1.04	-1.2	1.6
251 - 350	13	0.80	0.6	32.62	26.2	-3.6	51.2	-0.74	.86	-1.0	0.9
MORE THAN 350	2	0.78	0.3	19.99	15.2	45.2	40.7	-0.18	.45	-1.3	1.1
*INERTIA WEIGHT											
1800 - 2799	1	-0.82	0.0	4.46	0.0	131.6	0.0	-0.96	0.00	-4.9	0.0
2800 - 3799	5	0.23	0.4	19.01	22.2	6.7	48.7	-1.25	1.18	-1.3	1.0
3800 - 4799	15	0.82	0.6	29.99	23.2	-1.6	45.7	-0.63	.75	-0.9	1.0
4800 - 5799	1	0.59	0.0	30.73	0.0	74.0	0.0	-0.49	0.00	-2.1	0.0
ALL VEHICLES	22	0.60	0.7	26.37	22.3	9.7	53.3	-0.78	.85	-1.2	1.3

PERCENT REDUCTIONS AFTER MAINTENANCE AND/OR INSTALLATION
1975 FEDERAL TEST PROCEDURE
(1975 VEHICLES-COLD START DATA)
(BASELINE-INSTALLATION OF DEVICE)

	# OF	HC		CO		CO2		NOX		MPG	
	VEH.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	1	39.6	0.0	84.6	0.0	-9.4	0.0	-90.0	0.0	-11.3	0.0
CHRYSLER	2	4.3	15.5	27.6	10.7	2.1	9.8	-0.6	13.5	-7.1	5.8
FORD MOTOR CO.	1	2.0	0.0	47.0	0.0	12.0	0.0	-358.8	0.0	-14.8	0.0
GENERAL MOTORS	16	30.6	38.2	50.8	22.5	1.2	9.8	-62.4	58.8	-9.3	10.1
IMPORTS	2	11.3	24.5	45.7	9.1	0.6	7.9	-25.1	26.2	-5.8	4.4
*MODEL YEAR											
1968	0										
1969	0										
1970	0										
1971	0										
1972	0										
1973	0										
1974	0										
1975	22	25.6	34.7	49.6	21.9	1.2	9.3	-68.1	84.8	-9.1	8.9
*VEHICLE TYPE											
AUTOMOBILE	18	26.8	36.4	50.9	21.8	0.8	9.8	-62.2	83.3	-9.0	8.8
TRUCK	4	20.1	29.1	43.8	24.3	2.9	7.7	-94.8	99.3	-9.7	10.7
*VEHICLE OWNER											
GSA	3	27.9	30.0	53.9	16.6	2.7	9.4	-122.9	100.2	-11.5	12.3
PRIVATE OWNER	19	25.2	36.1	48.9	22.9	1.0	9.5	-59.5	81.8	-8.8	8.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	-0.5	53.1	35.0	22.4	10.2	8.9	-99.1	157.9	-13.1	11.1
CNV/NO A.PMP	13	39.2	22.2	54.2	20.7	-0.9	8.3	-65.6	56.4	-8.4	9.1
A.PMP/NO CNV	2	11.3	24.5	45.7	9.1	0.6	7.9	-25.1	26.2	-5.8	4.4
NO CNV/NO APMP	2	16.4	32.7	59.9	34.9	-7.1	3.3	-50.1	56.5	-7.2	5.9
*DISPLACEMENT											
LESS THAN 151	3	-19.8	56.6	39.2	13.0	8.5	14.8	-63.8	69.5	-14.3	15.1
151 - 250	4	19.2	30.0	44.5	23.2	1.0	8.4	-105.9	88.6	-8.5	11.7
251 - 350	13	33.8	24.3	51.1	24.3	-1.2	8.4	-65.6	93.8	-7.8	7.0
MORE THAN 350	2	52.6	18.7	65.8	3.4	6.2	5.8	-15.6	30.1	-11.4	9.9
*INERTIA WEIGHT											
1800 - 2799	1	-82.0	0.0	26.2	0.0	24.4	0.0	-141.2	0.0	-31.3	0.0
2800 - 3799	5	11.5	21.3	47.9	24.7	-0.1	8.9	-110.8	141.8	-7.4	6.3
3800 - 4799	15	36.5	25.2	50.8	22.1	-0.5	7.7	-51.1	60.3	-7.6	7.9
4800 - 5799	1	39.3	0.0	63.5	0.0	10.3	0.0	-36.8	0.0	-18.4	0.0
ALL VEHICLES	22	25.6	34.7	49.6	21.9	1.2	9.3	-68.1	84.8	-9.1	8.9

STATISTICAL SUMMARY OF EXHAUST EMISSIONS
90% CONFIDENCE INTERVALS (C.I.)
HYDROCARBONS (HC)
COLD START DATA

	#OF	BASELINE		AFTER INST.		REDUCTION			PERCENT REDUCTION		
	VEH	MEAN	S.D.	MEAN	S.D.	MEAN	±C.I.	S.D.	MEAN	±C.I.	S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	3	6.62	4.62	5.18	4.63	1.44	1.02	0.75	28.9	22.5	16.5
CHRYSLER	12	4.78	1.49	4.35	1.95	0.44	0.84	1.64	8.3	14.3	27.8
FORD MOTOR CO.	4	5.97	4.33	4.55	2.77	1.42	3.12	2.93	12.1	30.2	28.3
GENERAL MOTORS	21	3.52	3.19	2.64	2.55	0.88	0.63	1.67	25.5	13.6	36.3
IMPORTS	3	2.47	2.28	2.37	2.44	0.10	0.46	0.34	6.6	26.0	19.1
*MODEL YEAR											
1968	1	6.84	0.00	6.15	0.00	0.69	0.00	0.00	10.1	0.0	0.0
1969	3	9.72	4.35	7.73	0.29	1.99	6.28	4.62	9.7	50.1	36.9
1970	4	9.30	2.17	7.81	2.57	1.50	3.33	3.12	13.2	32.7	30.7
1971	2	5.38	1.92	3.87	0.83	1.51	5.68	2.75	20.3	90.5	43.8
1972	1	3.22	0.00	3.34	0.00	-0.12	0.00	0.00	-3.7	0.0	0.0
1973	9	4.89	1.26	4.00	1.00	0.89	0.61	1.00	16.5	10.1	16.6
1974	1	5.39	0.00	8.12	0.00	-2.73	0.00	0.00	-50.6	0.0	0.0
1975	22	2.09	0.76	1.48	0.81	0.60	0.24	0.67	25.6	12.7	34.7
*VEHICLE TYPE											
AUTOMOBILE	35	4.31	3.28	3.50	2.83	0.80	0.52	1.81	18.3	9.5	33.4
TRUCK	8	3.97	1.84	3.22	1.60	0.75	0.63	0.96	18.4	15.4	23.4
*VEHICLE OWNER											
GSA	10	4.42	1.50	3.60	1.33	0.82	0.59	1.04	18.7	13.0	22.7
PRIVATE OWNER	33	4.19	3.40	3.41	2.93	0.78	0.54	1.84	18.3	10.0	34.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	1.53	0.69	1.43	0.69	0.11	0.60	0.66	-0.5	47.9	53.1
CNV/NO A.PMP	13	2.33	0.60	1.44	0.76	0.89	0.29	0.58	39.2	10.9	22.2
A.PMP/NO CNV	10	5.23	4.06	4.33	2.84	0.90	1.40	2.44	10.5	13.0	22.6
NO CNV/NO APMP	15	6.15	2.51	5.28	2.36	0.87	0.91	2.00	11.8	12.8	28.4
*DISPLACEMENT											
LESS THAN 151	5	2.33	1.80	2.45	1.81	-0.13	0.42	0.47	-13.2	37.0	41.0
151 - 250	6	3.80	2.14	3.73	3.07	0.06	0.83	1.04	10.8	22.5	28.4
251 - 350	22	4.69	3.73	3.58	3.04	1.11	0.75	2.05	24.9	10.9	29.7
MORE THAN 350	10	4.48	2.07	3.49	1.84	0.99	0.70	1.23	24.1	14.6	25.4
*INERTIA WEIGHT											
1800 - 2799	3	3.08	2.02	3.44	1.68	-0.36	0.54	0.40	-29.5	61.8	45.5
2800 - 3799	13	5.71	4.42	4.70	3.37	1.01	1.32	2.69	10.9	14.2	29.0
3800 - 4799	26	3.75	2.03	2.93	2.14	0.83	0.34	1.03	26.8	8.9	26.6
4800 - 5799	1	1.50	0.00	0.91	0.00	0.59	0.00	0.00	39.3	0.0	0.0
*POPULATION SUMMARY											
1968-1972	11	7.93	3.30	6.51	2.37	1.41	1.56	2.89	11.7	15.2	28.1
1973-1974	10	4.94	1.19	4.41	1.61	0.53	0.85	1.48	9.8	15.1	26.4
1975	22	2.09	0.76	1.48	0.81	0.60	0.24	0.67	25.6	12.7	34.7
ALL VEHICLES	43	4.24	3.05	3.45	2.63	0.79	0.43	1.68	18.4	8.1	31.5

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

STATISTICAL SUMMARY OF EXHAUST EMISSIONS
90% CONFIDENCE INTERVALS (C.I.)
CARBON MONOXIDE (CO)
COLD START DATA

	#OF VEH	BASELINE MEAN	BASELINE S.D.	AFTER INST. MEAN	AFTER INST. S.D.	REDUCTION MEAN	REDUCTION ±C.I.	REDUCTION S.D.	PERCENT REDUCTION MEAN	PERCENT REDUCTION ±C.I.	PERCENT REDUCTION S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	3	121.77	46.50	57.13	49.30	64.64	32.53	23.95	59.1	38.0	28.0
CHRYSLER	12	89.00	25.24	45.47	22.98	43.52	16.43	31.94	45.7	13.0	25.3
FORD MOTOR CO.	4	64.98	39.71	34.17	29.41	30.81	33.98	31.88	45.9	26.7	25.0
GENERAL MOTORS	21	67.34	40.67	30.21	18.00	37.13	11.24	29.92	51.2	7.9	21.1
IMPORTS	3	41.06	29.70	27.91	23.96	13.15	8.88	6.53	38.7	18.8	13.8
*MODEL YEAR											
1968	1	161.97	0.00	52.02	0.00	109.95	0.00	0.00	67.9	0.0	0.0
1969	3	121.49	28.05	77.30	10.03	44.19	43.59	32.09	33.8	23.8	17.5
1970	4	111.70	28.01	52.26	39.59	59.44	15.28	14.34	56.8	23.3	21.8
1971	2	93.53	51.06	25.53	15.76	68.00	138.0	66.82	62.5	77.0	37.3
1972	1	51.96	0.00	39.77	0.00	12.19	0.00	0.00	23.5	0.0	0.0
1973	9	92.31	24.54	42.54	11.68	49.77	15.65	25.61	51.5	11.1	18.2
1974	1	89.26	0.00	87.24	0.00	2.02	0.00	0.00	2.3	0.0	0.0
1975	22	49.92	27.75	23.55	15.26	26.37	8.17	22.33	49.6	8.0	21.9
*VEHICLE TYPE											
AUTOMOBILE	35	76.44	40.67	38.32	25.53	38.12	8.99	31.47	47.8	6.5	22.8
TRUCK	8	69.40	34.54	28.85	14.46	40.56	16.20	24.64	53.5	13.0	19.7
*VEHICLE OWNER											
GSA	10	81.98	32.18	36.74	15.23	45.24	14.81	25.84	53.7	9.5	16.5
PRIVATE OWNER	33	73.05	41.45	36.50	26.29	36.55	9.23	31.31	47.4	7.0	23.6
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	19.26	11.97	13.42	11.12	5.84	2.66	2.95	35.0	20.2	22.4
CNV/NO A.PMP	13	62.33	23.36	28.02	14.81	34.31	10.97	22.34	54.2	10.2	20.7
A.PMP/NO CNV	10	84.06	43.41	42.23	18.25	41.83	17.32	30.23	46.5	8.6	15.0
NO CNV/NO APMP	15	98.88	31.43	47.89	29.53	51.00	15.16	33.49	50.5	12.1	26.8
*DISPLACEMENT											
LESS THAN 151	5	38.43	24.62	27.22	19.50	11.22	5.39	5.98	33.1	11.2	12.4
151 - 250	6	65.40	22.93	38.91	18.73	26.49	11.81	14.89	42.1	16.2	20.4
251 - 350	22	78.80	37.82	39.55	28.94	39.25	9.91	27.06	48.8	9.1	24.8
MORE THAN 350	10	91.22	46.70	33.23	16.89	57.99	21.72	37.91	61.1	8.7	15.2
*INERTIA WEIGHT											
1800 - 2799	3	46.37	26.97	35.08	20.56	11.29	8.73	6.42	24.7	1.9	1.4
2800 - 3799	13	80.02	43.66	42.72	31.88	37.30	14.12	28.75	46.6	11.9	24.2
3800 - 4799	26	77.03	38.46	34.37	20.18	42.66	10.62	31.75	52.3	7.1	21.2
4800 - 5799	1	48.41	0.00	17.68	0.00	30.73	0.00	0.00	63.5	0.0	0.0
*POPULATION SUMMARY											
1968-1972	11	110.21	36.81	53.07	29.34	57.13	19.31	35.65	49.6	13.0	24.0
1973-1974	10	92.00	23.16	47.01	17.92	45.00	16.32	28.48	46.6	13.3	23.2
1975	22	49.92	27.75	23.55	15.26	26.37	8.17	22.33	49.6	8.0	21.9
ALL VEHICLES	43	75.13	39.31	36.56	24.01	38.57	7.72	30.06	48.9	5.7	22.2

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011

STATISTICAL SUMMARY OF EXHAUST EMISSIONS
90% CONFIDENCE INTERVALS (C.I.)
CARBON DIOXIDE (CO_2)
COLD START DATA

	#OF VEH	BASELINE MEAN	BASELINE S.D.	AFTER INST. MEAN	AFTER INST. S.D.	REDUCTION MEAN	REDUCTION ±C.I.	REDUCTION S.D.	PERCENT REDUCTION MEAN	PERCENT REDUCTION ±C.I.	PERCENT REDUCTION S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	3	571.67	151.65	550.63	81.77	21.03	108.3	79.73	1.5	17.3	12.7
CHRYSLER	12	611.51	111.64	566.15	78.63	45.36	29.43	57.20	6.4	4.2	8.2
FORD MOTOR CO.	4	616.27	108.51	590.95	105.15	25.33	57.29	53.74	3.8	9.5	8.9
GENERAL MOTORS	21	563.95	113.87	567.18	114.88	-3.24	22.57	60.10	-1.1	4.2	11.3
IMPORTS	3	350.83	10.17	345.60	10.72	5.23	27.21	20.03	1.4	7.8	5.8
*MODEL YEAR											
1968	1	492.40	0.00	623.30	0.00	-130.90	0.00	0.00	-26.6	0.0	0.0
1969	3	486.07	65.06	520.57	30.55	-34.50	65.68	48.35	-8.1	15.6	11.5
1970	4	478.95	99.57	464.10	100.75	14.85	29.10	27.30	3.1	5.4	5.1
1971	2	640.60	109.60	638.40	116.25	2.20	13.72	6.65	0.4	2.3	1.1
1972	1	405.20	0.00	400.10	0.00	5.10	0.00	0.00	1.3	0.0	0.0
1973	9	626.45	147.38	567.68	112.32	58.78	38.46	62.95	8.2	5.2	8.6
1974	1	574.40	0.00	495.90	0.00	78.50	0.00	0.00	13.7	0.0	0.0
1975	22	574.92	119.80	565.18	116.90	9.75	19.51	53.30	1.2	3.4	9.3
*VEHICLE TYPE											
AUTOMOBILE	35	552.76	123.66	547.99	118.21	4.77	15.65	54.78	0.2	2.8	9.9
TRUCK	8	633.37	113.17	572.17	76.47	61.20	40.47	61.54	8.7	5.8	8.8
*VEHICLE OWNER											
GSA	10	628.02	128.57	571.51	95.03	56.51	36.50	63.70	7.8	5.3	9.2
PRIVATE OWNER	33	549.50	119.35	546.73	116.44	2.77	15.68	53.21	-0.0	2.9	9.9
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	664.46	85.15	601.46	124.69	63.00	42.54	47.21	10.2	8.0	8.9
CNV/NO A.PMP	13	596.88	83.28	600.33	84.32	-3.45	24.58	50.04	-0.9	4.1	8.3
A.PMP/NO CNV	10	491.13	164.90	468.30	119.12	22.83	40.81	71.23	2.3	6.6	11.5
NO CNV/NO APMP	15	561.37	112.69	550.84	97.09	10.53	26.45	58.43	1.0	4.8	10.6
*DISPLACEMENT											
LESS THAN 151	5	399.50	82.20	369.02	33.08	30.48	52.51	58.27	6.0	10.0	11.1
151 - 250	6	450.80	83.49	445.77	69.69	5.03	27.99	35.29	0.6	5.3	6.7
251 - 350	22	581.82	79.74	579.09	73.31	2.73	19.04	52.00	-0.1	3.4	9.3
MORE THAN 350	10	691.12	92.08	649.74	59.19	41.38	47.02	82.06	4.7	7.6	13.2
*INERTIA WEIGHT											
1800 - 2799	3	433.90	94.86	384.83	33.70	49.07	97.17	71.53	9.5	17.5	12.9
2800 - 3799	13	470.95	113.63	465.63	94.87	5.32	22.71	46.23	0.1	4.5	9.3
3800 - 4799	26	625.85	87.91	611.77	71.43	14.08	21.70	64.87	1.4	3.5	10.4
4800 - 5799	1	717.40	0.00	643.40	0.00	74.00	0.00	0.00	10.3	0.0	0.0
*POPULATION SUMMARY											
1968-1972	11	504.80	100.45	519.84	105.56	-15.05	27.66	51.08	-3.3	5.8	10.8
1973-1974	10	621.25	139.93	560.50	108.30	60.75	34.19	59.68	8.7	4.7	8.3
1975	22	574.92	119.80	565.18	116.90	9.75	19.51	53.30	1.2	3.4	9.3
ALL VEHICLES	43	567.76	124.58	552.49	111.26	15.27	15.31	59.62	1.8	2.6	10.2

STATISTICAL SUMMARY OF EXHAUST EMISSIONS
90% CONFIDENCE INTERVALS (C.I.)
OXIDES OF NITROGEN (NO_x)
COLD START DATA

	#OF VEH	BASELINE MEAN	BASELINE S.D.	AFTER INST. MEAN	AFTER INST. S.D.	REDUCTION MEAN	REDUCTION ±C.I.	REDUCTION S.D.	PERCENT REDUCTION MEAN	PERCENT REDUCTION ±C.I.	PERCENT REDUCTION S.D.
*VEHICLE MANUFACTURER											
AMER. MOTORS	3	1.51	0.51	2.83	0.99	-1.32	1.17	0.86	-97.7	109.8	80.8
CHRYSLER	12	2.99	1.02	3.61	1.13	-0.62	0.57	1.12	-30.3	30.6	59.4
FORD MOTOR CO.	4	3.18	1.58	3.51	0.44	-0.33	1.97	1.85	-78.9	199.1	186.8
GENERAL MOTORS	21	1.58	0.59	2.18	0.78	-0.59	0.30	0.79	-49.5	22.6	60.1
IMPORTS	3	1.45	0.35	1.86	0.22	-0.42	0.36	0.26	-32.1	30.0	22.1
*MODEL YEAR											
1968	1	2.34	0.00	3.66	0.00	-1.32	0.00	0.00	-56.4	0.0	0.0
1969	3	2.88	1.24	3.26	0.43	-0.38	1.17	0.86	-22.3	46.4	34.2
1970	4	2.51	1.07	1.90	0.79	0.61	0.67	0.62	20.9	31.5	29.6
1971	2	3.27	0.52	2.46	1.48	0.82	2.00	0.97	27.6	70.0	33.9
1972	1	2.73	0.00	2.98	0.00	-0.25	0.00	0.00	-9.2	0.0	0.0
1973	9	2.69	1.43	3.83	1.15	-1.13	0.59	0.96	-66.4	44.0	72.1
1974	1	2.02	0.00	2.40	0.00	-0.38	0.00	0.00	-18.8	0.0	0.0
1975	22	1.56	0.69	2.34	0.86	-0.78	0.31	0.85	-68.1	31.0	84.8
*VEHICLE TYPE											
AUTOMOBILE	35	2.08	1.11	2.49	0.99	-0.42	0.25	0.88	-40.0	21.0	73.5
TRUCK	8	2.27	0.94	3.75	0.90	-1.48	0.62	0.94	-88.7	53.5	81.4
*VEHICLE OWNER											
GSA	10	2.41	1.06	3.89	0.68	-1.48	0.51	0.89	-92.4	46.5	81.1
PRIVATE OWNER	33	2.02	1.08	2.37	0.93	-0.35	0.25	0.85	-35.9	21.0	71.1
*CONTROL OPTIONS(CONVERTER,AIR PUMP)											
CNV/A.PMP	5	1.77	1.01	2.52	0.87	-0.76	1.23	1.37	-99.1	142.3	157.9
CNV/NO A.PMP	13	1.28	0.23	2.09	0.74	-0.81	0.34	0.70	-65.6	27.7	56.4
A.PMP/NO CNV	10	2.29	0.77	2.81	1.16	-0.52	0.55	0.96	-31.6	36.4	63.5
NO CNV/NO APMP	15	2.83	1.22	3.29	1.12	-0.46	0.50	1.11	-29.7	26.1	57.6
*DISPLACEMENT											
LESS THAN 151	5	1.55	0.78	2.04	0.55	-0.49	0.30	0.33	-49.3	49.2	54.6
151 - 250	6	2.06	1.04	3.08	1.41	-1.02	0.99	1.24	-70.2	73.9	93.1
251 - 350	22	2.10	1.20	2.56	0.99	-0.46	0.32	0.87	-42.4	28.7	78.5
MORE THAN 350	10	2.45	0.92	3.22	1.14	-0.77	0.71	1.24	-50.8	45.6	79.7
*INERTIA WEIGHT											
1800 - 2799	3	1.51	1.08	2.08	0.78	-0.57	0.49	0.36	-65.4	92.6	68.1
2800 - 3799	13	2.32	1.28	2.82	1.26	-0.50	0.58	1.17	-44.9	50.2	102.3
3800 - 4799	26	2.11	0.99	2.79	1.04	-0.68	0.32	0.96	-49.7	22.1	66.2
4800 - 5799	1	1.33	0.00	1.82	0.00	-0.49	0.00	0.00	-36.8	0.0	0.0
*POPULATION SUMMARY											
1968-1972	11	2.76	0.88	2.63	0.95	0.12	0.50	0.92	0.6	20.4	37.6
1973-1974	10	2.63	1.36	3.68	1.17	-1.06	0.54	0.94	-61.7	39.9	69.6
1975	22	1.56	0.69	2.34	0.86	-0.78	0.31	0.85	-68.1	31.0	84.8
ALL VEHICLES	43	2.11	1.08	2.73	1.08	-0.61	0.25	0.98	-49.0	19.6	76.4

AUTOMOTIVE TESTING LABORATORIES,INC.
19900 E. COLFAX, AURORA, COLO. 80011

STATISTICAL SUMMARY OF EXHAUST EMISSIONS
90% CONFIDENCE INTERVALS (C.I.)
MILES PER GALLON (MPG)
COLD START DATA

	#OF	BASELINE		AFTER INST.		REDUCTION			PERCENT REDUCTION		
	VEH	MEAN	S.D.	MEAN	S.D.	MEAN	±C.I.	S.D.	MEAN	±C.I.	S.D.
***VEHICLE MANUFACTURER**											
AMER. MOTORS	3	12.09	4.02	14.14	3.89	-2.05	1.76	1.29	-18.9	21.6	15.9
CHRYSLER	12	11.87	2.05	13.77	1.52	-1.90	0.64	1.24	-17.5	6.4	12.5
FORD MOTOR CO.	4	12.09	0.89	13.79	2.52	-1.70	2.27	2.13	-13.8	18.1	17.0
GENERAL MOTORS	21	13.35	2.19	14.68	2.75	-1.34	0.51	1.36	-10.0	3.5	9.4
IMPORTS	3	21.20	2.65	22.60	2.93	-1.40	1.04	0.77	-6.6	4.7	3.4
***MODEL YEAR**											
1968	1	11.55	0.00	12.25	0.00	-0.70	0.00	0.00	-6.1	0.0	0.0
1969	3	12.55	0.47	13.34	0.74	-0.79	1.02	0.75	-6.4	8.1	6.0
1970	4	13.37	2.68	16.24	3.61	-2.87	1.67	1.57	-21.2	13.0	12.1
1971	2	11.03	0.32	13.13	2.73	-2.09	4.98	2.41	-18.7	44.0	21.3
1972	1	17.85	0.00	18.76	0.00	-0.91	0.00	0.00	-5.1	0.0	0.0
1973	9	11.89	3.20	14.08	2.66	-2.19	0.74	1.21	-20.8	8.3	13.6
1974	1	12.13	0.00	13.47	0.00	-1.34	0.00	0.00	-11.0	0.0	0.0
1975	22	14.05	3.39	15.29	3.69	-1.24	0.46	1.25	-9.1	3.3	8.9
***VEHICLE TYPE**											
AUTOMOBILE	35	13.53	3.25	14.97	3.50	-1.45	0.37	1.31	-11.2	3.0	10.5
TRUCK	8	12.18	2.43	14.36	1.89	-2.18	0.92	1.40	-19.8	9.0	13.7
***VEHICLE OWNER**											
GSA	10	12.02	2.69	14.15	2.16	-2.13	0.82	1.43	-19.8	8.3	14.5
PRIVATE OWNER	33	13.66	3.20	15.07	3.52	-1.42	0.38	1.29	-10.7	2.9	9.7
***CONTROL OPTIONS(CONVERTER,AIR PUMP)**											
CNV/A.PMP	5	12.85	1.69	14.66	3.38	-1.81	1.63	1.80	-13.1	10.0	11.1
CNV/NO A.PMP	13	12.89	1.99	13.90	1.95	-1.02	0.56	1.14	-8.4	4.5	9.1
A.PMP/NO CNV	10	15.24	4.88	17.16	4.50	-1.92	0.69	1.21	-15.2	7.4	13.0
NO CNV/NO APMP	15	12.45	2.50	14.22	2.66	-1.77	0.63	1.40	-15.0	5.6	12.5
***DISPLACEMENT**											
LESS THAN 151	5	19.41	3.19	21.41	2.71	-2.00	1.54	1.71	-11.3	10.4	11.5
151 - 250	6	15.82	1.55	17.22	1.55	-1.40	1.20	1.51	-9.3	8.2	10.3
251 - 350	22	12.44	1.30	13.79	1.76	-1.35	0.45	1.24	-11.0	3.7	10.2
MORE THAN 350	10	10.53	0.89	12.52	1.06	-1.99	0.76	1.32	-19.6	7.9	13.7
***INERTIA WEIGHT**											
1800 - 2799	3	17.27	1.49	19.71	0.87	-2.44	2.90	2.14	-14.9	19.4	14.3
2800 - 3799	13	15.28	4.01	17.00	3.99	-1.72	0.62	1.26	-12.2	4.7	9.6
3800 - 4799	26	11.90	1.57	13.29	1.48	-1.40	0.44	1.32	-12.7	4.2	12.6
4800 - 5799	1	11.12	0.00	13.17	0.00	-2.05	0.00	0.00	-18.4	0.0	0.0
***POPULATION SUMMARY**											
1968-1972	11	12.97	2.38	14.75	3.00	-1.79	0.84	1.55	-13.9	6.7	12.4
1973-1974	10	11.91	3.02	14.02	2.51	-2.11	0.67	1.17	-19.8	7.5	13.2
1975	22	14.05	3.39	15.29	3.69	-1.24	0.46	1.25	-9.1	3.3	8.9
ALL VEHICLES	43	13.28	3.14	14.86	3.25	-1.58	0.34	1.34	-12.8	3.0	11.5

AUTOMOTIVE TESTING LABORATORIES, INC.
19900 E. COLFAX, AURORA, COLO. 80011